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DISEASES *of the* NERVOUS SYSTEM

A Practical Journal on Psychiatry and Neurology

SEPTEMBER
1957

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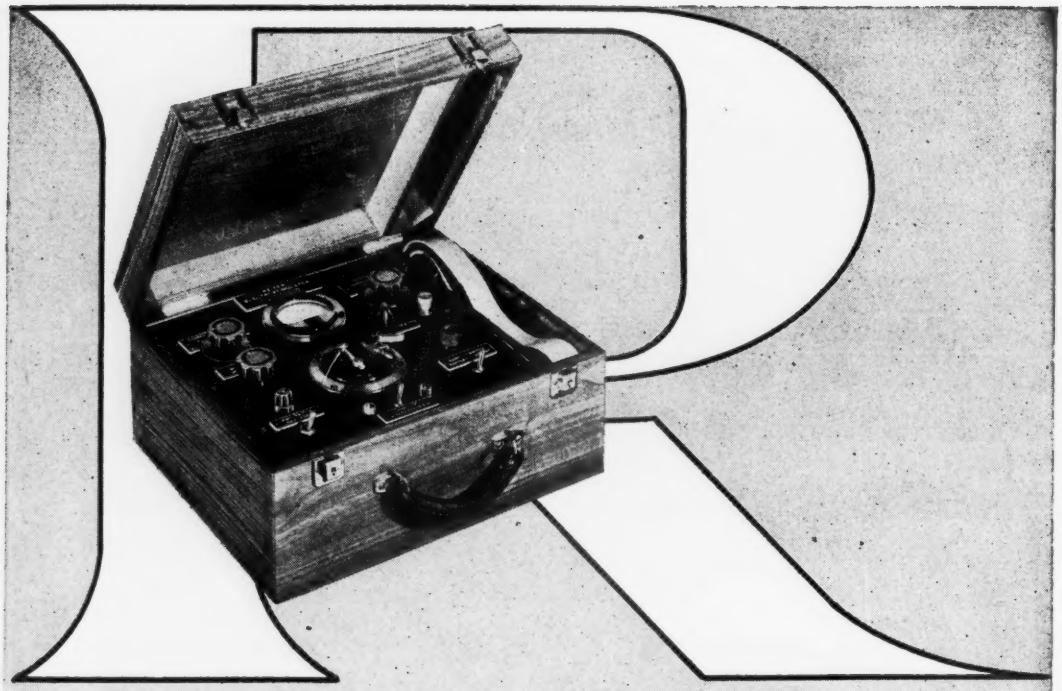

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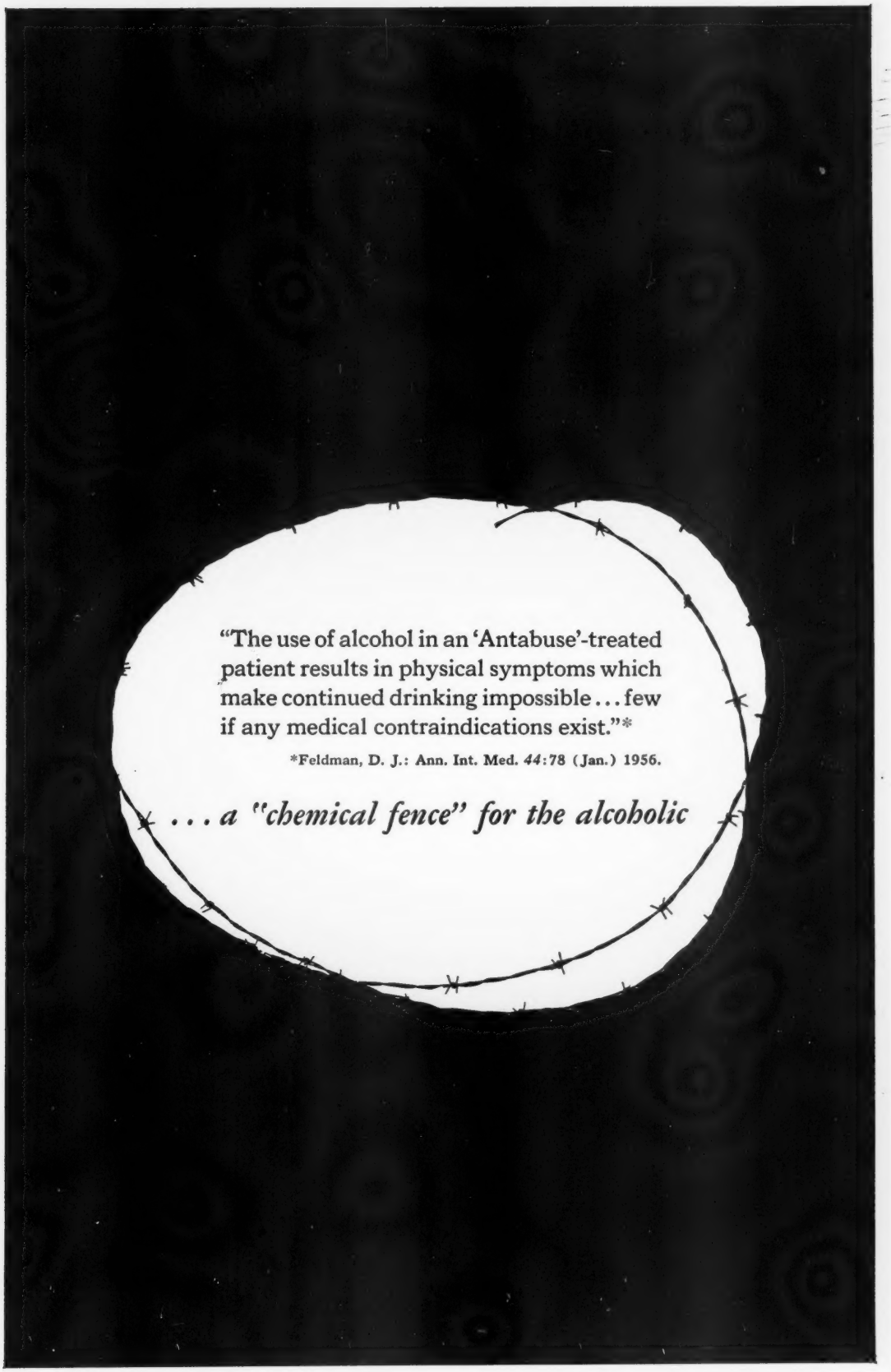
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1. Rockmore, L.; Shatin, L., and Funk, I.C.: Psychiat. Quart. *30*:189 (April) 1956.

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Volume XVIII SEPTEMBER 1957 Number 8

DISEASES *of the* Nervous System

A PRACTICAL JOURNAL ON PSYCHIATRY AND NEUROLOGY

Current Trends in Psychiatric Education

FLOY JACK MOORE, M.D.

Introduction

This paper is concerned mainly with the undergraduate, or the medical school teaching of psychiatry.

Although profound revisions in psychiatric teaching in medical schools have been in progress during the past two decades, many other forces have been, and are, at work upon medical education as a whole. If psychiatric teaching seems to have changed the most, this may not reflect the greatest need but rather an expression of the direction of the total change, i.e. a consideration of the total person in relationship to his environment. This trend has not only influenced the subject matter of psychiatry but also has greatly increased psychiatry's importance in the medical curriculum. Concerning psychiatry, Lidz[25] said, "Basically, it is the study of the vicissitudes in the growth of the biologically endowed and impelled organism into an interpersonal or cultural environment that has opened new vistas to psychiatry. It is the recognition that the two heritages, the biologic and the cultural, are inextricably interwoven and can only be separated artificially that has brought psychiatry back into the main stream of medicine." The total person concept is not a new idea. The Thracian King, Zamoloxis, a figure in Greek mythology, said, "As you ought not to attempt to cure the body without the head, or the head without the body, so neither ought you to attempt to cure the body without the soul, and this is the reason why the cure of many diseases is unknown to the physicians of Hellas, because they are ignorant of the whole, which ought to be studied also, for the part can never be well unless the whole be well."[5]

Medical education must be carefully scrutinized by all physicians, for it is the keystone of the whole structure of medical practice and medical science. This includes the psychiatrist, surgeon, general practitioner, etc., regardless of whether or not he belongs to the faculty of a medical school. Medicine, as a whole, suffers from such things as the recent, highly publicized "fights" between medical schools and local and state medical societies. No one, regardless of his prejudices or bias, who examines this situation critically and unemotionally can honestly believe that the small number of men who, of their own volition, choose a career in academic medicine could possibly be a threat to the economic security of their colleagues.

Our Aims

One of the most gratifying and helpful accomplishments in psychiatry has been the recent appearance of much data, comprehensive discussions, and excellent reports concerning large scale and thorough attempts at stating the position, responsibilities, methods and aims of psychiatric education, and therefore of psychiatry.

These aims are succinctly summarized in the foreword to the Report on the 1951 Conference on Psychiatric Education,[3] ". . . that the aim of psychiatric teaching in the medical school is to prepare the medical student to deal intelligently and skillfully with patients as persons, and to provide him with the basic knowledge of psychological and social problems and resources in relation to health and disease." It stated further, "The Conference deliberations served to disclose the intricate and perplexing problems which underlie so deceptively simple and brief a formulation."

In effect, we are saying that a medical school should not be a trade school concerned only with turning out technicians.

Presented by invitation at the Southern Psychiatric Association meeting, October 1, 1956.

From Department of Psychiatry, University of Mississippi School of Medicine, Jackson, Mississippi.

Here again history has a lesson. In one of the medieval classifications of the sciences[31] medicine was considered a basic science while surgery belonged to the realm of technology along with wood working, agriculture, etc. The derivation of the word physician comes from the Latin physicus, which originally connoted the natural philosopher and gradually began to be used also as a designation for the medical man. Alfred North Whitehead[35] writing about the teaching of science said, "In the teaching of science, the art of thought should be taught; . . ." "The function of university is to enable you to shed details in favor of principles. When I speak of principles, I am hardly even thinking of verbal formulations. A principle which has fairly soaked into you is rather a mental habit than a formal statement."

This is the Problem of Education versus Instruction. We might define Education as the encouragement of the student in habits of working and thinking for himself. Instruction, on the other hand, is a process whereby the student is required to assimilate a series of dicta, without inquiring into their validity or necessarily considering the evidence on which they are based. This may result in a suppression of insight, curiosity, and the capacity to learn from experience. It prevents the formation of the habit of constructive thinking.

Straight didactic teaching, the presentation of a large number of facts (spoon feeding) without fostering maturation through the development of more independence of thought and action by the students, is inadequate and probably harmful.

Allen[6] believes the crux of the problem in medical education is that a serious attempt be made to provide opportunities for a durable training in the principles and methods that have created modern medical science; that the student should not get a technological education. In addition, much of his book is devoted to the idea that medical education is neglecting the teaching of the social implications of medical practice and the social responsibility of the physicians.

This is not a plea for any type of orthodoxy. This is an argument for the attitude of responsible maturity which some teachers exemplify and which they could in some measure cultivate in their students.

Since no sick organ ever comes to a doctor for treatment with a patient attached to it, the general physician has a more constant need for the knowledge that is basic to psychiatry than he has for that of any other specialty.[30]

The Problems

Our aims, both ideal and practical, point towards certain problems in their attainment—some are related to the special subject matter of psychiatry, others are related to the nature of our culture and the general problems of education. I would like to discuss briefly six such problems.

1. *Communication.* Here are included the difficulties in reaching the other members of the faculty, the public and the students.

Attitudes, words, and concepts in psychiatry have such different meanings. If our expressions and tools were totally different and our students, in this sense, relatively ignorant then the task might be easier. Instead, our main tool is words, most of which are part of the common language with different meanings here as well as being subject to multiple interpretations depending upon the level of abstraction or frame of reference.

Furthermore, our ideas are found, in whatever contradictory or irrational way, in that mythical attribute "common sense," which is considered so laudable, as well as being part of the numerous and fallacious popular theories of human behavior. With these things, very little factual knowledge, and almost no practice in logical thinking as it applies to ideas, the medical student presents himself. In teaching him, we are dealing with problems of language and interpretation as well as problems of fact and opinion. In attempting intricate problems of simplification for the purpose of teaching, we are caught in the dilemma that to obtain simplification we may so change the meaning as to make it useless. In general, there are two kinds of blocks to adequate communication of psychiatric material—emotional and cognitive. "The emotional block rises because talking about feeling and behavior-matters routinely dealt with by psychiatrists produces anxiety and fear, shame and guilt. The cognitive block

arises because it is difficult to conceptualize these things, difficult to make them simple and clear".[1]

If communication is one of the most pressing problems in psychiatric education, it is also well recognized as such, and there are numerous things being done to improve this situation.

2. *The Education of the Medical Student Prior to Medical School.* A sound plan of medical education must include and embrace the entire educational experience of the individual. This includes not only a consideration of the subject matter emphasized in the pre-medical training (the so-called physical sciences, biology, chemistry, etc.) but the type of teaching provided and the attitudes of the students toward learning. At present, the student may be well prepared in the physical sciences, but he has very little knowledge of psychological reactions or the social sciences. Psychiatry, therefore, must be taught as a basic science course in medical school as well as a clinical subject.

Aside from these deficiencies, the medical student is often inadequate in the English language and in an ability to express himself, shortcomings of particular seriousness to psychiatry. We do not demand the exactness of usage attributed to Samuel Johnson. Once his somewhat plain wife came upon him kissing the parlor maid, "Samuel Johnson," she shouted, "I am surprised." "Madam, will you never look to your English?" he thundered. "I am surprised; *you* are astonished."

Dr. Veith[32] has some remarks on the importance of a broad and more complete education, as well as a possible solution—"A comprehensive educational background would seem essential in medical practice where the physician's personality and general wisdom are frequently as incisive as his professional skill. Yet, it is much easier to deplore the educational limitations imposed by the rigorous schedule of modern medical training, than to make realistic suggestions toward the inclusion of cultural subjects into an already overcrowded curriculum. Perhaps the only solution in this dilemma is the introduction of a subject that by its very nature and content relates the humanities and the social sciences with the field to which the student will devote the rest of his life. Thus, the history of medicine would seem a natural choice."

3. *The Personal Nature of Psychiatry.* Dr. Fey[18] puts it nicely—"The unique status of psychiatry within medicine is ascribed to its dual nature as technical specialty and as a personal and interpersonal philosophy." "Every physician is trained to meet this medical need, whereas many are threatened by and seek to escape entanglement in their patient's emotional problems. Many an earnest young doctor feels somehow betrayed by the patient who has 'no physical findings,' as if such persons present some irrelevant non-medical concern. They resent being expected to help such patients and, especially, the feeling of incompetence to offer any psychological assistance . . . every patient needs more than medicine from his doctor."

"Psychiatric patients," are particularly liable to engender anxieties and conflicts in the students. It is of interest that this is often not true with the psychotic patient, for here is one so clearly abnormal and different to the student that he has no problem in identification nor a need to conceptualize normal versus abnormal.

4. *The Subject Matter of Psychiatry.* Traditional psychiatry (the psychoses, the neuroses, etc.) although a most important and necessary part of the undergraduate teaching of psychiatry, is of limited value to most medical students, important particularly to enable them to recognize and refer such people for help. Our contribution to the clarification and appreciation of the patient-physician relationship is the largest and most important task of psychiatry in medical education. If we are good doctors first and psychiatrists second, then we will be in a much better position to accomplish this.

An adequate and integrated undergraduate psychiatric training program, which is broad in scope yet carefully promulgated will do more than any other single thing to help society cope with our tremendous mental health problem.

5. *The Fragmentation of the Subject Matter in a Medical School.* Our medical curriculum is divided into two main ways—first, into subjects such as surgery, chemistry, pathology, etc., and secondly, and this is the

most devastating division and the one causing the greatest problem, into the so-called pre-clinical and clinical years.

This leads to competition for the student's time and interest as well as to an artificial presentation of the patient into what appears to be disparate and independent parts. It also reinforces the student's preoccupation with grades and seriously hampers his maturity, both scientifically and emotionally. The tyranny of grades, particularly in the first two years, allows little chance for an educational experience that "includes not merely things and their forces, but men and their ways" (Huxley) or which puts the medical student "in a position to carry on the education which he has only begun in medical school through the remainder of his life." (Welch[2,4,20])

6. *Money.* This constitutes a problem in everything I know of. One of the ways that the medical school solves this problem is to obtain money for research with which to procure people and equipment that also must be used for teaching. Let me first say that I am not attacking the sacred cow of research, nor asking that it be fed one cent less, but rather trying to point out that the medical schools need more money purely for teaching, such as that provided by the National Institute of Mental Health. Such a program and monies are particularly needed in states like Mississippi. You have heard of the M. D. Anderson Professor of Psychiatry at Baylor and the Sterling Professor of Psychiatry at Yale; I am known as the National Institute of Mental Health Professor of Psychiatry at Mississippi.

Summary

1. *Medical Education.* Perhaps one of the most significant trends is the increased recognition and appreciation of the importance of the subject, Medical Education and its implementer, the teacher. Witness the many meetings devoted to this subject. An important facet here was suggested by Dr. Lhamon[24] who said, "We need to become passionate in behalf of some cause in our teaching." The interest, and enthusiasm, even passion, connected with the many experiments in medical education that are today being tried in various medical schools may account for their success, rather than this being due to the actual changes, per se.[9]

2. *Integrated Teaching.* This is now being done by collaborative efforts of various departments, both clinical and pre-clinical; however, this may be accomplished later by utilizing individuals with a multi-disciplinary approach. This may be facilitated by joint appointments of qualified individuals among the various departments, both clinical and pre-clinical. During one of Dr. Hoff's[21] laboratories in physiology at Baylor University, the exercise was supervised by a faculty which included separate individuals board certified in Neurology, Psychiatry, Neurosurgery, and Pediatrics. This is not just integrated teaching but the beginning of integrative thinking by the student.

3. *Scientific Psychiatry.* Much has been accomplished by psychiatry, small as this is in view of the needs, and particularly in the sphere of conceptualizing a philosophy and defining our basic precepts in order to subject them to scientific analysis. As White[31] wrote, "Science is sciencing." "The word may appropriately be used as a verb: one, sciences, i.e., deals with experience according to certain assumptions and with certain techniques." This is not related necessarily to a particular category of science such as chemistry, physics, etc.

The various so-called Collagen diseases (e.g. scleroderma and polyarteritis) are presented to the medical students, and accepted by them, as "real diseases" or as examples of "scientific medicine" in contra-distinction or as contrasted with a presentation concerning schizophrenia, the latter being considered non-scientific, etc. Why—because the Collagen diseases can easily be separated into various clinical entities, often by sight alone, they have definite pathological changes (this is most important, as an explanation of the attitude) and they follow rather predictable clinical courses. Yet, medicine has no idea of what causes them, no effective treatment, and no idea of how to prevent them. Using different methods, psychiatry can do considerably more with the schizophrenic. The oft-stated criticism that we are unscientific is no less applicable to other branches of medicine.

4. *Patient Oriented Teaching.* This has

been the method used by great physicians from Hippocrates to Osler. Its appearance in the first two years of medical school is so very important and has numerous ramifications. As Stetten put it:

"Without benefit of the only valid mnemonic device in medicine, the patient, the student is expected to commit to memory and to produce on demand a mass of unintegrated information about the structure of the body, the structure of the compounds that it contains, and the reactions which these structural units undergo. The faculty exerts little effort towards convincing the students of the ultimate importance of this information. As a result, a large portion of the students feel that the pre-clinical subjects represent a hazard interposed between them and the study of medicine by a unsympathetic and uncomprehending faculty."

Conclusion

Sir David Henderson said, "Psychiatry deals with man himself. It is the science of man; the most backward, the most difficult, but potentially the most fruitful of all the sciences."

It is within the province of the good psychiatrist to most nearly satisfy the last part of the physician's prayer, ascribed to Maimonides (1135-1204).

Grant energy unto both body and the soul,
That I may e'er unhindered ready be
To mitigate the woes,
Sustain and help,
The rich and poor, the good and bad, the enemy and friend.
Oh, let me e'er behold in the afflicted and the suffering
Only the human being!

BIBLIOGRAPHY

1. Editorial Board, Bloomberg, Wilfred (Chairman): Psychiatry—The Press—and the Public. Washington, 1956.
2. Prepared by the Committee on Medical Education of the American Psychiatric Association: An Outline for a Curriculum for Teaching Psychiatry in Medical Schools. *J. of Med. Ed.*, 31:2, February, 1956, pp. 115-128.
3. Editorial Board, Whitehorn, J. C. (Chairman): Psychiatry and Medical Education. *Am. Psychiat. Assn.*, Washington, 1952.
4. Editorial Board, Whitehorn, J. C. (Chairman): The Psychiatrist, His Training and Development: Report of the 1952 Conference on Psychiatric Education." *Am. Psychiat. Assn.*, Washington, D.C., 1953.
5. Allbutt, T. C.: Medicine in the 19th Century—Explanatory Notes by Alan M. Chesney. *J. of Med. Ed.*, 31:7, July, 1956, Part 1, pp. 460-468.
6. Allen, R. B.: Medical Education and the Changing Order. *The Commonwealth Fund*, New York, 1946.
7. Appel, K. E., Mitchell, J. McK., and Lhamon, W. T.: Psychiatric Values in a New Method of Medical Education. *The Am. J. of Psychiat.*, Vol. 109, August 1952, pp. 102-107.
8. Ashford, M. (Editor): Trends in Medical Education. *The New York Academy of Medicine Institute on Medical Education*, 1947; *The Commonwealth Fund*, New York, 1949.
9. Bean, W. B.: The Rise and Fall of the Correlated Clinical Courses at Iowa. *J. of Med. Edu.*, 31:2, February, 1956, pp. 97-100.
10. Braceland, F. J.: Mental Health and the Community. An address given by Dr. Braceland in Chicago, Illinois, May 3, 1956.
11. Braceland, F. J.: Psychiatry and the Future of Medical Education. *JA..M.A.*, 157:16, April 16, 1955, pp. 1377-1381.
12. Burwell, C. S.: The Care of the Patient. *New Eng. J. of Med.*, 254:944-947 (May 17), 1956.
13. Coleman, J. V.: *J. of Med. Edu.* (1951), 26:106-110.
14. Curran, D.: The Place of Psychology and Psychiatry in Medical Education. *British Med. J.*, Vol. 2, August 27, 1955, pp. 515-518.
15. D'Alonzo, C. A., Fleming, A. J., Densen, P. M., Munn, Mary G.: The Prevalence of Certain Diseases Among Executives in Comparison with Other Employees. *Indust. Med. and Surg.*, 23:8, 357, August, 1954.
16. Ebaugh, G., and Barnes, R. H.: Psychiatric Education. *Am. J. of Psychiat.*, Vol. 109, January, 1953, pp. 538-540.
17. Ebaugh, F. G., and Rymer, C. A.: Psychiatry in Medical Education. New York, *The Commonwealth Fund*, 1942.
18. Fey, W. F.: Two Psychiatries: Problems in Teaching Them. *J. of Med. Ed.*, 30:2, February, 1955, pp. 97-105.
19. Fisher, T. M., and Stevenson, I.: The Use of Home Visits in Teaching Psychological Attitudes to Medical Students. *J. of Med. Ed.*, 30:4, April, 1955, pp. 203-214.
20. Harper, E. O.: Psychiatric Teaching in an Integrated Medical Curriculum. *Am. J. of Psychiat.*, Vol. 3, July-June, 1954-55, pp. 686-690.
21. Hoff, H. E.: Phenomena in Physiology. *J. of App. Phys.*, 8:2, September, 1955, pp. 230-242.
22. Kopper, P. H.: Problems of the Preclinical Teacher. *J. of Med. Ed.*, 31:4, April, 1956, pp. 217-221.
23. Lewis, M. D., Logan, M., and Sullivan, A. W.: Experiences in Teaching Child Psychiatry to Fourth Year Medical Students. *J. of Med. Ed.*, 31:5, May, 1956.
24. Lhamon, W. T.: Remarks on the Department of Psychiatry. *J. of Med. Ed.*, 30:6, June, 1955, pp. 331-334.
25. Lidz, T.: The 1951 Ithaca Conference on Psychiatry in Medical Education. *J. of Med. Ed.*, 30:12, December, 1955, pp. 689-697.
26. Lippard, V. W.: The Medical School—Janus of the University." *J. of Med. Ed.*, 30:12, December, 1955, pp. 698-706.

27. Merton, R. K., Bloom, S., and Rogoff, N.: Studies in the Sociology of Medical Education. *J. of Med. Edu.*, 31:8, August, 1956, pp. 552-565.
28. Sebreall, W. H., Jr.: Medical Research—Today and Tomorrow. *J. of Med. Edu.*, 30:10, October, 1955, pp. 553-558.
29. Steiger, W. A., Hansen, A., V., Jr., and Rhoads, M.: Experiences in the Teaching of Comprehensive Medicine. *J. of Med. Edu.*, 31:4, April, 1956, pp. 241-248.
30. Stevenson, G. S.: Mental Health—A Major Problem Today. *Merck Report*, January, 1955, pp. 17-20.
31. Temkin, O.: Medical Education in the Middle Ages. *J. of Med. Edu.*, 31:6, June, 1956, pp. 383-392.
32. Veith, I.: The Function and Place of the History of Medicine in Medical Education. *J. of Med. Edu.*, 31:5, May, 1956, pp. 303-308.
33. Weech, A.: Fundamental Elements of Medical Education. *J. of Med. Edu.*, 31:2, February, 1956, pp. 101-107.
34. White, A.: The Science of Culture. *Farrar, Straus and Company*, New York, 1949.
35. Whithead, A. N.: The Aims of Education. *MacMillan Company*, New York, 1929.
36. Whitehorn, J. C.: Psychiatry as a Basic Medical Science." *Conn. M. J.*, 6:693, 1942.
37. Whitehorn, J. C.: The Meaning of Medical Education in Our Society. *Am. J. of Psychiat.*, Vol. 109, August, 1952, pp. 81-88.
38. Whitehorn, J. C.: The Training of Psychiatrists. *J. of Med. Edu.*, 31:3, March, 1956, pp. 157-164.

Combined Use of Psychotherapy With Ataraxic Drugs

STANLEY LESSE, M.D., SC.D.

The appearance of chlorpromazine in 1952[1] as a new chemotherapeutic regime in the management of psychiatric problems introduced a new era in clinical psychiatry and psychiatric research. During the past four and a half years several millions of patients, with psychiatric symptoms, have been treated with chlorpromazine, while hundreds of thousands more have been treated with other ataraxics such as rauwolfia serpentina, meprobamate and promazine hydrochloride. In spite of the extensive use of these medications only a few papers have paid even lip service to the use of ataraxic drugs in combination with psychotherapy. In a previous report[2] we presented our preliminary findings on the combined use of chlorpromazine and psychotherapy in a wide spectrum of psychiatric patients. In this paper we will present further observations on this technique gathered over a period of three years.

Methodology

This paper is based on a study of 100 patients who were treated with psychoanalytically oriented psychotherapeutic techniques in combination with chlorpromazine. This group represented a fraction of a total of more than 300 patients who have been treated with chlorpromazine by the author. In 98 patients the psychotherapeutic techniques could best be described as brief psychoanalytically oriented psychotherapy in which the patient was seen two times per week and, in a few cases for short intervals, as often as three times per week. The treatment period lasted from three to six months. Two patients, who were under intensive reconstructive psychoanalysis, also received chlorpromazine for short intervals.

The patients ranged in age from 15 to 60 years with the average being 35. They were the sicker of our patients, those who were not as sick being managed with psychotherapy alone. From the standpoint of diagnosis 44 could be broadly categorized as having psychoneuroses of various subtypes, while the remaining 56 patients had psychotic manifestations, namely: (1) 42 had schizophrenia of different subtypes; (2) 14 had involutional psychoses.

The initial daily dosages of chlorpromazine ranged from 75 mgm. to 400 mgm., while the maximum daily dosage varied from 200 to 900 mgm. per day. All patients remained on the drug for a minimum period of three weeks. All patients classified in the psychoneurotic group had been managed with psychotherapy alone for at least three months before treatment was supplemented with chlorpromazine. In patients diagnosed as having schizophrenia or involutional psy-

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choses, drug therapy was instituted following the initial visit or as late in treatment as nine months after the first interview.

Indications for Use of Ataraxic Drugs with Psychotherapy

There are many patients, who when first seen in private psychiatric practice or in psychiatric out-patient clinics, are too sick to be amenable to psychotherapy on an ambulatory basis. The majority of these patients diagnostically fall into the schizophrenic or involutional psychotic groups. In many of these patients the degree of anxiety was so great and the manifest symptoms so bizarre, that in past years, most were treated with electroshock and the other organic therapies, usually isolated from society, in a mental institution. The administration of chlorpromazine hydrochloride in sufficient dosages, will decrease the marked anxiety, and secondarily the other symptoms to such a degree that many of these patients become suitable candidates for psychotherapeutic management on an out-patient basis.

Many psychoneurotic patients and those diagnosed as having pseudoneurotic schizophrenia, who are good candidates for psychoanalytically oriented psychotherapy, are initially much too frightened to participate in such a therapeutic relationship. Often weeks or months are spent in ameliorating the level of anxiety to the point where the patient has enough ego strength to relate in a dynamically oriented scheme. We found that the early administration of chlorpromazine could greatly shorten the period of "anxiety decompression" and thereby more quickly make the patient available for effective psychotherapy.

The tranquillizers can serve a purpose during the course of psychotherapy as well as at its inception. The insights gained through dynamically oriented therapy may precipitate marked anxiety in some neurotic patients. These difficulties are seen much more frequently in the psychotherapeutic treatment of schizophrenic patients where emotionally ladened insights might provoke even a panic reaction. The amelioration of this precipitous, rapidly mounting tension by the judicious use of chlorpromazine has proved very effective in preventing the patient's "running away from the therapy" and in many cases has insured the continuation of the treatment.

Chlorpromazine has yet another action, that is of great therapeutic help in some instances. In many anxious patients it has been found to increase the production of dreams, or at least to make them more aware to the patient. Some patients have been given the drug for this purpose.

Variations in the Clinical Picture Associated With Combined Therapy

a) *Problems in Transference Relationship*

Alterations in transference relationships were seen that were unusual and unexpected. It was found that by rapidly decreasing the initial pressure of anxiety a strong transference was established more quickly than wold be expected in the absence of the tranquillizer. This fact is explainable on the basis that patients reflecting the psychophysiological manifestations of marked anxiety early in therapy are unable to form close interpersonal relationships until the painful tension is first reduced. Often weeks or months are spent by therapists to accomplish this whereas in some patients the process can be effected in a much shorter period by supplementing the initial psychotherapy efforts with an ataraxic drug.

It was the usual pattern, in the patient whose anxiety had been quickly decompressed, that the positive transference was very strong, the patient attempting to please the therapist. It was as if the patient was expressing gratitude for the relief of much of his psychic pain.

At the other pole it was commonly noted that negative transferences were blunted and had less emotional impact. Much of the hostility, that often would have been transferred upon the therapist during the reconstruction of the childhood traumas, did not materialize. In dream material the therapist was usually associated with the "good father" symbol and very infrequently with the "bad father" figure.

The rapid decompression of anxiety in a few instances had a very deleterious effect on therapy. Some patients who had persistently denied any emotional difficulties

prior to the final emotional crisis, reverted back into this pattern after the tension was greatly relieved and "ran away from treatment." A few patients, after becoming relatively comfortable on chlorpromazine, began to minimize the severity of their illnesses and became resistant to the technique of free association. This was in contrast to the fact that they had related more freely when they were very tense. This proved to be a stumbling block to effective dynamically oriented therapy in 10 patients.

A very unusual reaction was noted in two patients which I have termed "drug transference." This situation occurred only, when anxiety was rapidly ameliorated. The patient seemingly by-passed the physician in that no significant transference relationship was established, the therapists merely becoming a dispenser of a "cure-all" medication. However, these patients refused to have other physicians dispense the chlorpromazine. They acted as if the therapist was endowed with special talents related to the drug, but at the same time they blocked all attempts to continue in analytically oriented psychotherapy.

We found that in contrast to these very strong positive or unusually blunted negative transference relationships, noted in many instances, when chlorpromazine was given early in treatment, relatively mild changes in the doctor-patient situation occurred, if the drug was administered to alleviate rapidly mounting anxiety appearing after months of psychotherapy. In these instances the beneficial effects of the drug were related to the therapist's good judgment. Expressed in another way, if a good transference situation has been established after months of treatment, a tranquillizing drug will have little effect on the relationship between patient and psychiatrist and will not prove to be a stumbling block to the continuation of psychotherapy.

b) *Anxiety and Clinical Symptoms*

Combined therapy offers an excellent opportunity for the clinical psychiatrist to study the relationship between the quantitative degree of anxiety and the appearance of the various psychiatric symptoms. As has been pointed out in previous publications[2,3,4] clinical psychiatric symptoms appear to be unconsciously produced secondary defense mechanisms against the pain of anxiety. The chain of events commonly seen in patients, appears to be as follows. Initially a state of anxiety is produced by an environmental situation with which the patient cannot cope, and this anxiety in turn stimulates unconscious conflicts, the combination precipitating a pain-anxiety state. It is then that symptoms such as hypochondriacal complaints, obsessive-compulsive phenomena, phobias, psychosomatic manifestations, paranoid states, etc., appear individually or in succession, the exact symptoms and pattern of appearance being unique for each patient. As the anxiety mounts usually more of these secondary defense mechanisms come into play. If the degree of the anxiety is not quantitatively decreased by these secondary defense mechanisms, the patient's ego defenses are overwhelmed and panic ensues, or in schizophrenic patients loss of contact with reality may result.

The reverse process is noted during successful therapy with chlorpromazine. We observed that the degree of anxiety must be decreased before a symptom or succession of symptoms disappears. It is commonly observed that although the symptom remains for a period of days after anxiety is diminished, there is less emotional impact associated with the symptom. It appears that the symptom does not disappear completely until the degree of anxiety decreases below a certain threshold which is unique for a given patient. Our observations during the past few years have pointed up to us that the last symptom to appear during the period when tension is mounting is usually the first symptom to disappear when anxiety is being reduced. There is one big exception to this pattern and that occurs in relation to difficulty with reality contact often seen in schizophrenic patients who are under extreme stress. The feeling of unreality may persist for a period of time even after some of the more common symptoms have been relieved.

The use of psychotherapy in combination with the tranquillizers deserves a special note of caution. Chlorpromazine is of help in approximately one-third of the patients

manifesting severe agitated depressions.[5] As with other symptoms described above the depression is not relieved until anxiety is first significantly diminished. There is, however, a group of agitated-depressed patients, in whom the affect may be blunted, giving the impression that the patient is greatly improved, who are in reality still very sick. These patients may even deny feeling depressed. However, this may be a calm that belies the residual malignant core of the depressive syndrome indicated by continued fatigue, insomnia, hypochondriacal complaints and anorexia. I have seen seven patients, referred for electroshock therapy, who have made suicidal attempts after showing what appeared to be striking recovery with the combined psychotherapy-chlorpromazine regime. It is my conviction that severely agitated, depressed patients with suicidal trends should not be treated with the ataraxic drugs on an outpatient basis. Electroshock therapy remains the treatment of choice, preferably in a protected environment.

c) *Effect on Dreams*

If dreams are routinely studied in all very tense patients treated by the combined psychotherapy-ataraxic technique, one notes that the dreams will be presented in greater numbers. This fact was brought to our attention very early in our experience with chlorpromazine, when patients spontaneously commented on the fact that they were "dreaming much more than ever before." This was found to be true in more than half of the cases in which marked overt anxiety was present, but it does not hold for patients in whom the affect was relatively bland. We have deliberately given chlorpromazine to 18 anxious patients for the sole purpose of increasing dream production during the course of psychotherapy. It proved very successful in 13 cases.

Chlorpromazine primarily affects the affectual impact of dreams. This was most clearly seen with nightmares and rage dreams. In the early phase of chlorpromazine therapy patients continued to have the same dreams that were accompanied by marked terror or rage prior to the onset of treatment, but now the emotional impact was blunted. In other words, the manifest content was the same but the dreams were denuded of rage or terror. After a period of a few days the manifest content of the dreams changed too. It appears that it was not until the level of anxiety was decreased below a certain threshold, which was unique for a given patient, that the content of the dream was changed. This same phenomenon can be seen during the course of a successful psychoanalysis in the absence of drug therapy, in that patients who have shown significant improvement will relate dreams with similar content to those that had nightmare quality early in treatment but which in the advanced stage of treatment have lost their terror.

We have also observed that there were some extremely tense patients, who after being on chlorpromazine therapy, began to relate terrifying nightmares and rage filled dreams, whereas they had no recollection of such dreams prior to the onset of treatment. This period rarely lasted more than a few days, for as the general level of anxiety was decreased further, the emotional impact of these dreams also became blunted and the content changed as in the dreams described previously. It appears from this, that there are some patients who are so frightened that they repress any conscious recollection of terror or rage dreams. When the fear is relieved to a relatively slight degree, the unconscious need to repress the dream disappears, and the dream may be brought into consciousness. However, it is not until the anxiety level is diminished to a far greater extent that the affectual impact of the dream is ameliorated and the manifest content itself changed.

Those patients who developed a very strong childlike transference on the therapist early in treatment often demonstrated this dependence in dreams, the psychiatrist being symbolized as an all-protecting parent.

Discussion

Chlorpromazine seems to work primarily by ameliorating the patient's anxiety. The relationship between the quantitative degree of anxiety and the appearance or disappearance of psychiatric symptoms and signs has been recorded in other studies. If

patients are studied in acute experimentally produced stress situations, for example the stress of a psychosurgical procedure performed under local anesthesia, it can be clearly demonstrated that as the tension mounts different symptoms will be manifested, the nature and sequence of appearance of these symptoms varying with the individual patient.[3,4] We have similarly noted that there is a rapid increase in the overt manifestations of anxiety, prior to the appearance of other clinical symptoms, in many schizophrenic patients who are given intravenous mescaline.

In almost all schizophrenic patients lobotomized under local anesthesia, one can observe while the leukotomy is being performed that there must be a marked decrease in the overt manifestations of anxiety before any other symptoms disappear. The greater the amelioration of anxiety the more symptoms vanished.[3,6] We noted in many of these same patients that hallucinations, which in many ways resemble dreams, did not disappear until the level of anxiety was first markedly decompressed. At first the hallucination was denuded of its emotional impact and then it disappeared. We have seen similar reactions in schizophrenic patients who have been given the "hallucinogenic drugs" such as mescaline or lysergic acid in whom terrifying hallucinations have been produced. If these patients are then given chlorpromazine intravenously, most demonstrated that the affect accompanying the hallucination was blunted before the hallucination itself disappeared. The observations made during the course of combined psychotherapy-chlorpromazine therapy parallel those recorded during psychosurgery and in the mescaline-intravenous chlorpromazine experiments.

Combined psychiatric treatment consisting of analytically oriented psychotherapy supplemented by chlorpromazine or other of the ataraxic group is a new technique. It gives the psychotherapist a new and valuable addition to his therapeutic armamentarium. This new tool can make a larger number of patients, particularly of the schizophrenic group available for dynamically oriented psychotherapy on an office or out-patient basis. As more psychiatrists use and report on their findings with this new method, the technique will be improved and our knowledge of the psychophysiological relationship between anxiety and clinical symptoms will be enhanced.

This combined therapy is definitely not a cure-all. It has limitations and pitfalls. We have already pointed out the danger of using the technique indiscriminately in severe depressions. The use of a tranquillizing drug as a supplement to psychotherapy is of no benefit in patients manifesting very little overt anxiety.

Another great danger to be avoided by the psychiatrist is the tendency to use these new drugs as a "crutch" or an "easy way out" of a difficult therapeutic problem that could best be managed by psychotherapy alone. The therapist must repeatedly search himself in an attempt to detect whether he is using the drug to compensate for personal feelings of inadequacy in a certain problem.

Statements have been made by several psychotherapeutic purists to the effect that drugs are incompatible with dynamically oriented psychotherapy. This attitude is countered by the very satisfactory clinical results seen in many patients treated with the combined psychotherapy-chlorpromazine technique who otherwise would have required institutionalization.

BIBLIOGRAPHY

1. Hamon, J., Paraire, J., and Vellus, J.: "Remarques sur l'action du 4560 R. P. sur l'agitation maniaque." *Ann. Med. Psychol.,* 110:331, March, 1952.
2. Lesse, S.: Psychotherapy and the Ataraxics. *Am. J. Psychother.,* 10:448, July, 1956.
3. Lesse, S.: Experimental Investigations on Psychosurical Patients. *Trans. Am. Psychopath. Assoc. 1955* (in press).
4. Lesse, S.: Local Anesthesia in Psychosurgery-Technique of Preparation and Observations During Operation. *Cur. Res. in Anesth. & Anal.* (in press).
5. Lesse, S., Malitz, S., and Hoch, P.: "Chlorpromazine Therapy in Private Practice—Its Benefits and Complications." *J. Nerv. & Ment. Dis.* (in press).
6. Lesse, S.: Observations of Schizophrenic Patients During Psychosurgery Performed Under Local Anesthesia. *Dis. of Ner. Syst.,* 17:58, Feb., 1956.

Pharmacological Agents in Study of Higher Nervous Activity

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Pharmacological agents have been successfully used in my laboratory, as well as in others, not only for their effect on higher nervous activity, but to reveal some of the mechanisms of conditional reflex function. Although the earliest use of drugs was in the study of their specific influence on the conditional reflex, I shall summarize my work according to a systematic scheme, viz. employment of the drug 1) as unconditional stimulus, 2) for its paralytic action on special nerves, 3) for its influence on behavior and the conditional reflex, 4) to reveal the mechanism of schizokinesis. In some of these instances the pharmacological agent is less useful than are surgical methods but in this paper I shall devote major attention to the drugs.

The drugs which have been used as the *unconditional stimulus* fall into two groups, centrally acting and peripherally acting. In the first group are morphine, apomorphine and a number of others which produce their effect through action in the brain. One of the earliest experiments in this field, was that of Krylov, a Russian pupil of Pavlov who demonstrated that sleep could be conditioned to the injection of morphine. Apomorphine was shown by Podkopiev to serve as the unconditional stimulus upon which vomiting could be elaborated as the conditional reflex. Apomorphine has been used in the United States as an unconditional stimulus to produce vomiting in the therapy of alcoholics, where the sight or smell of the alcoholic beverage is made the conditional stimulus for vomiting. As is well-known, hydrochloric acid was used by Pavlov as the basis on which to form salivary conditional reflexes. In the above instances the drug acts on receptor surfaces to produce a reflex action (hydrochloric acid) or acts on some nerve centers controlling the function in the brain, i.e. it has a central representation or involves the central nervous system.

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The salivation of morphine was conditioned both in the Pavlovian Laboratories and in the U.S.A. by Collins and Tatum.[1]

The conditioning of pilocarpine salivation was attempted by Kleitman and Crisler in 1927, but this salivation could not be made into a conditional reflex. Pilocarpine unlike morphine, does not act centrally to produce salivation but exerts its action on the peripheral, effector nerve endings. Thus it does not involve the central nervous system in producing the effect.

In order to test this hypothesis more completely, viz. that the central nervous system must be involved in the particular action, which is to be conditioned, we used not only pilocarpine but a number of other substances. One of the first of these was epinephrine to produce hyperglycemia. This effect, as has been shown by Brooks, occurs through direct action on the tissues in rabbits in which the central nervous system has been destroyed. We injected epinephrine for as many as 125 times on successive days, and although there was a marked rise in the blood sugar, this hyperglycemia never occurred to the conditional stimulus (bell or injection of saline) preceding and overlapping the rise of blood sugar from the epinephrine.[2]

Next we chose histamine, an agent which produces gastric secretion through action on the peripheral nerve endings. This substance was injected into dogs having a Pavlov pouch.[3] The first dog had 27 injections of one quarter cc histamine solution, giving a secretion of 7.5 cc in 90 minutes. An equal amount of normal saline gave only .4 cc in 90 minutes. The second dog had 46 injections of histamine, 32 of them between October 29 and December 21. On December 20 a quarter cc histamine produced a gastric secretion of 4.8 cc in 75 minutes, on the following day an equal amount of normal saline gave only 0.6 cc.

We then turned our attention from the gastro-intestinal system to the cardiac, us-

ing two drugs to change the heart rate, atropine and acetylcholine. The former was employed in doses sufficiently large to raise the heart rate to 200 or more. It is known that this action is the result of paralysis of the vagus nerve endings. Atropine 0.1 mgm/kg subcutaneously was the unconditional stimulus raising the heart rate from an average control of 93 to 160 with atropine. An injection of an equal amount of saline lowered the heart rate from 103 control to 93 in the reading after injection.

Acetylcholine injected intravenously first caused a stoppage of the heart beat for one or more beats followed by a marked acceleration lasting several minutes. After a number of injections of acetylcholine as the unconditional stimulus preceded and overlapped by a bell, we obtained no parallel change in heart rate to the bell and injection of saline on the control days.

In the above instances where pilocarpine, epinephrine, histamine, atropine and acetylcholine are injected the effects were never conditioned, but the same functions, salivation, hyperglycemia, gastric secretion, cardiac acceleration have under various other circumstances been quickly conditioned. It is known, however, that when these same functions are part of a central nervous excitation, the effects are easily conditioned, salivary and gastric secretion of hunger, the hyperglycemia of fear, cardiac changes to various emotional states.[4] The principle involved here is that it is not the nature of the function which determines whether it can be conditioned but the method by which this function is produced, whether through central or peripheral action. In some cases in which part of the action of a drug involves the central nervous system and some of its action does not, those actions taking place through the central nervous system are conditionad, and those through peripheral are not (fractional conditioning).[5]

In the study of cardiac rate, we have perfected a method of injecting the drugs, subcutaneously or intravenously, from outside the Camera, so that the person does not have to be in with the dog, since the presence of the person himself has a marked effect on the heart rate.[6,7] We have demonstrated for example, that when atropine is injected by hand there is a markedly different curve of cardiac acceleration from what it is when injected without the presence of the person.

Effect of Drugs on Specific Nerves

Curare was injected as an unconditional stimulus (Harlow and Stagner) for its paralytic effect to see whether exercise of a function was necessary in the formation of the conditional reflex. These authors, and Light and Gantt[8] showed that the conditional reflex is readily formed when the effector, nerve and executor organ are eliminated.

Atropine has been used to determine whether both the vagus and the sympathetic nerves are involved in cardiac conditioning. Even if enough atropine is injected to paralyse the vagus and raise the heart rate from 100 control to 200-250, there is still a partial cardiac conditional reflex, showing that both vagus and sympathetic are involved in the cardiac conditional reflex. In this way both curare and atropine have been used for their selective action to aid us in the knowledge of which nerves are involved in a function that can be conditioned.

Effect of Drugs on Conditional Reflexes

This is perhaps the most interesting to therapists of the studies of drugs. Those agents which we have studied for their effect on the conditional reflexes and on behavior have been caffeine, amytal, sodium bromide, chloral hydrate,[9] amphetamine,[10] sulfanilamide,[11] morphine,[12] mescaline,[13] chlorpromazine and reserpine.[14] There is a difference in the action of drugs on the normal and on the abnormal, as well as a difference according to types (as pointed out by Pavlov). We may state, however, that in the normal there is no drug that improves mental performance over the optimal for that individual. Some drugs which increase the intensity of the conditional reflexes, as caffeine, do it at the expense of differentiation. Alcohol has an interesting action in its removal of inhibition in the inhibitory, pathological dogs; in these, alcohol appears to foster a more normal behavior.[15]

Some drugs, as sulfanilamide have a more pronounced impairment of the visual conditional reflexes than of the auditory; whether this is on the basis of a selective action for the optical areas has not been determined.

A study of the two new drugs remarkable for their therapeutic effect in neurotic and psychotic patients, chlorpromazine and reserpine, reveals that they diminish both the motor and cardiac components of the orienting reflex, and especially the motor, but that they have very little effect on either component of the conditional reflex to painful stimuli. A comparative study of the effect of chlorpromazine on motor and cardiac conditional reflexes indicates that there is a reduction of the motor conditional reflexes to 50% or less, but there is very little change in the cardiac conditional reflexes. In reserpine the reduction of the motor conditional reflex was 40%-0%, but also very slight or no effect on the cardiac component of the conditional reflexes. The benefit of the drugs may depend upon their specific action on the orienting reflex.

Morphine has an especially interesting influence on the motor conditional reflexes compared with the cardiac; in doses of 3-5 mgm/kg, enough to produce drowsiness and ataxia, it abolishes the motor conditional reflexes to pain, but has relatively little effect upon the cardiac conditional reflexes to pain in spite of its lowering of heart rate from about 90 for control to about 50 for morphine. This preferential action of drugs on the motor rather than on the cardiac component of the conditional reflexes reveals the mechanism which we have called schizokinesis, the relative stability of the cardiovascular responses compared to the more superficial component, viz. the motor or the salivary. We have found that two years after extinction of motor or salivary conditional reflexes without intervening practice or experimentation, the cardiac conditional reflex is still at the normal level.[17] The cardiac component is the first to form but the last to disappear. This is parallel to Bykov's findings with the secretion of urine, that it is quickly formed but that it disappears slowly. Such schizokinesis seems to be characteristic of many visceral functions.[16]

BIBLIOGRAPHY

1. Collins, K. H., and Tatum, A. L.: *Amer. J. Phys.*, 74: 14, 1925.
2. Gantt, W. H., Katzenelbogen, S., and Loucks, R. B.: An Attempt to Condition Adrenalin Hyperglycemia. *Bull. Johns Hopkins Hosp.*, LX: no. 6, pp. 400-411, June 1937.
3. Katzenelbogen, S., Loucks, R. B., and Gantt, W. H.: Attempt to Condition Gastric Secretion to Histamine. *Am. J. Physiol.*, 128: no. 1, pp. 10-12, Dec. 1939.
4. Finch, G.: Hunger as a Determinant of Conditional and Unconditional Salivary Response Magnitude. *Am. J. Physiol.*, 123: no. 2, pp. 379-382, Aug. 1938.
5. Fleck, S., and Gantt, W. H.: Fractional Conditioning of Behavior Based on Electrically Induced Convulsions. *Federat. Proc.*, 8: no. 1, p. 47, 1949.
6. Teitelbaum, H. A., and Gantt, W. H.: Intravenous (Cerebral Sinus) Injection of Drugs from a Distance. *Tr. Am. Neurol. Assoc.*, p. 72, 1948.
7. Teitelbaum, H. A., and Gantt, W. H.: A Method of Intravenous Injection of Drugs from a Distance in Conditional Reflex Studies. *Science*, 113: no. 2943, pp. 603-604, May 25, 1951.
8. Light, J. S., Gantt, W. H.: Essential Part of Reflex Arc for Establishment of Conditioned Reflex: Formation of Conditioned Reflex After Exclusion of Motor Peripheral End. *J. Comp. Psychol.*, 21: no. 1, pp. 19-36, Feb. 1936.
9. Wolff, H. G., and Gantt, W. H.: Caffein Sodiobenboate, Sodium Iso-Amylethyl Barbiturate, Sodium Bromide and Chloral Hydrate. *Arch. Neurol.. and Psychiat.*, 33: pp. 1030-1057, May 1935.
10. Alpern, B., Finkelstein, N., and Gantt, W. H.: Effect of Amphetamine (Benzedrine) Sulfate Upon Higher Nervous Activity: I. Animal Experiments. *Johns Hopkins Hosp.*, LXXIII: no. 4, pp. 287-299, Oct. 1943. II. Human Experiments, *Bll. Johns Hopkins Hosp.*, LXXVI: no. 2, pp. 61-74, Feb. 1945.
11. Gantt, W. H., and Marshall, E. K.: Toxicity of Sulfanilamide on Higher Nervous Activity. *Bull. Johns Hopkins Hosp.*, LXXVII: no. 2, pp. 104-115, Aug. 1945.
12. Stephens, J., and Gantt, W. H.: The Differential Effect of Morphine on Cardiac and Motor Conditional Reflexes. *Bull. Johns Hopkins Hosp.*, April 1956.
13. Bridger, W., and Gantt, W. H.: Effect of Mescaline on Higher Nervous Activity (Differentiated Conditional Reflexes). *J. Phar. and Exp. Ther.*, 1955.
14. Gliedman, L. H., and Gant, W. H.: The Effect of Reserpine and Chlorpromazine on Orienting Behavior and Retention of Conditioned Reflexes. *Sou. Med. J.*, In Press.
15. Gantt, W. H.: Effect of Alcohol on Sexual Reflexes of Normal and Neurotic Male Dogs. *Psychosom. Med.*, XVI: no. 3, pp. 174-181, May-June 1952.
16. Gantt, W. H.: Principles of Nervous Breakdown—Schizokinesis and Autokinesis. *Annals of N. Y. Acad. Sci.*, 56: art. 2, 143, Feb. 1953.

Theoretical Considerations in the Therapeutic Use of Peripheral Electrical Stimulation in Psychiatry

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The thought of using peripheral electrical stimulation for the treatment of certain mental illnesses occurred to us two years ago while discussing some significant points in the studies of Blachly and Brookhart[1] on the analeptic action of electrical stimulation in barbiturate poisoning. These workers were highly skeptical of claims[2,3] that unidirectional electrical current (nonconvulsive electroshock) owed its analeptic action in the treatment of barbiturate coma to a transcerebral stimulation of the diencephalon. On the basis of studies on 65 dogs, they disproved the transcerebral theory of the action of unidirectional currents as follows. Pentabarbital anesthetized dogs showed a definite increase in respiratory minute volume and in some instances showed evidences of arousal when given cranial stimulation with currents delivered from a Reiter CW-47 Electrostimulator. These responses occurred regardless of where the electrodes were located but with the most marked analeptic effect being produced by electrode placements on the snout. No effect on respiration or arousal was seen from the same stimulation when the sensory nerves to the head were cut. Stimulation of the dogs' hind legs caused the same order of augmentation of respiration and arousal as previously demonstrated by stimulation of the cranium.

In our clinical use of nonconvulsive electric shock, we have been in agreement with the experiences of Alexander[4] that this form of treatment is opposite in therapeutic effect to the action of convulsive electroshock and that the Funkenstein test[5] is of practical value in selecting patients for either type of treatment. Thus, it appeared reasonable to us that all or part of the therapeutic benefit of nonconvulsive electroshock might be due solely to stimulation of peripheral nervous pathways. The extensive work of recent years on the reticular activating system was thought to offer a basis for a physiological rationale for peripheral electrical stimulation as psychiatric treatment. An additional frame of reference was provided two years ago in a paper by Hebb.[6] He reported that behavioral abnormalities could be produced in man by the process of reducing all forms of afferent imput to a minimum for periods of several hours. In some instances hallucinatory states were produced in subjects who were medical students and it was noted that their general scholastic performance tended to be below par for several days following such experiments. Therefore, after re-evaluating nonconvulsive electroshock in light of these findings that intense afferent stimulation could awaken comatose dogs and that diminution of afferent stimuli could profoundly influence perception and levels of awareness in man, we collaborated with Dixon, Brookhart and Blachly to develop a method of administering peripheral electrical stimulation for therapeutic purposes.[7]

Method

The Reiter CW-47B or C Electrostimulator usually set at Position I provides unidirectional current. Three large cloth-covered electrodes wet with saline are used; one 3½ x 10 inches is placed over the patient's lumbo-sacral region and connected to the positive outlet of the machine; the other two, 3½ x 5 inches are placed on the anteromedial aspect of each leg approximately 5 centimeters below the tibial tuberosities and are connected by means of a divided wire to the negative outlet. Patients are anesthetized with intravenous sodium pentothal to a level at which current strengths from 15 to 20 m.a. will be tolerated. This is done with the intent of providing a depth of anesthesia which will allow a treatment of twenty minutes. The application of current for very short periods and with gradually increasing intensity serves as an excellent

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means of determining the desired level of anesthesia. With the patient sufficiently anesthetized, current is held between 15 and 20 m.a. with attention paid to whether or not apnea is momentarily produced. This often happens and if hyperpnea does not appear within one minute after the onset of treatment, the intensity of the current is reduced to the point at which satisfactory breathing occurs. Later the current may be increased to the point of maximum tolerance without impairing respiration. The current is then gradually diminished but is kept at the highest intensity which the patient can comfortably tolerate. In the higher ranges of stimulation, muscles of the lower extremities and lower trunk are held in marked extension in which state, however, rhythmical contractions in synchrony with the current can be palpated. In the middle levels of stimulation there is a marked clonus, usually observed in levels above 3 m.a. Often below 3 m.a. the only movements seen are of the toes and ankles. However, palpitating the muscles will still disclose synchronous contractions.

Clinical Impressions

Various clinical applications of peripheral electrical stimulation have been made as opportunities have presented themselves in private practice of general psychiatry and as time taken from administrative duties in an understaffed, isolated state hospital would allow. A preliminary report on the use of the method in courses of 20 treatments on 15 newly institutionalized psychotic patients was made a year ago and since that time ten additional committed patients have been treated. Smaller series of stimulation have been tried on 30 patients in special situations including 19 who showed clouded sensoria and were admitted to private hospital. Also 35 psychoneurotic patients have received office treatment.[8] In the preliminary study it was seen that four patients with hyporeactivity to the Funkenstein test did not improve with peripheral electrical stimulation but three of the four subsequently improved quite promptly with convulsive electroshock therapy. Five of nine patients hyperreactive to the Funkenstein test showed a prompt improvement. Two additional hyperreactive patients improved with subsequent convulsive-nonconvulsive electroshock while two remained in the hospital in spite of additional treatment. It is our impression that peripheral electrical stimulation will prove of value for both psychotic and psychoneurotic patients with central autonomic hyperreactivity but to date our series is not sufficiently large to warrant a definite conclusion. In four instances peripheral electrical stimulation has been successfully used to clear up states of organic excitement and confusion inadvertently produced by convulsive electroshock. Two trials on patients with acute alcoholic hallucinosis have been unimpressive. Status epilepticus was uninfluenced in two patients. Spectacular results were seen in one case of Wernicke's encephalopathy. Acute excitement states in newly admitted patients have yielded good results with peripheral electrical stimulation in some instances while in others no effect has been seen. It is our impression that in such states, patients acutely aware of their surroundings do not improve while those out of contact do well. Experiences with a case of barbiturate poisoning have been reported elsewhere[9] and the immediate improvements noted were consistent with those obtained by Blachly and Brookhart[1] and by Freeman.[10] Also, peripheral electrical stimulation has proved to be of crucial value in the treatment of a case of profound coma and hypothermia produced by a massive ingestion of chlorpromazine with suicidal intent. This case which will be reported in detail elsewhere[11] apparently recovered without demonstrable cortical deficit.

Due to the fact that Northern State Hospital has an active insulin coma therapy program, it has been possible to demonstrate the analeptic action of peripheral electrical stimulation in hypoglycemic coma.[12] Fifty-one patients have been aroused from coma with this method from several to 59 times. Analysis of blood samples drawn before and after stimulation shows that awakening from coma is not necessarily associated with a rise in blood glucose. Use of peripheral electrical stimulation for this purpose has proved to be of very practical value and in our opinion has greatly enhanced the safety of insulin coma therapy.

In another study, five regressed, deteri-

orated schizophrenics were given peripheral electrical stimulation without anesthesia. In most cases it was found that current strengths up to 20 m.a. could be given with no apparent discomfort. A series of 20 treatments were given with no improvement of any patient.

Considerable variation has been noticed in a comatose patient's toleration of the currents, both in hypoglycemic coma and in barbiturate anesthesia. In some instances it has been noticed that the current seemed to be noxious to the patient prior to arousal, whereas in other instances patients could be completely awake and still tolerate current strengths from 10 to 15 m.a. without any apparent discomfort.

We have been impressed with patients' acceptance of this form of treatment. Unless one has been exceptionally careless as the patient arouses, there is a complete amnesia for receiving the current and for several hours after treatments patients seem to show a definite change in mood, becoming more gay and buoyant. Patients awakened from hypoglycemic coma by peripheral electrical stimulation as well as by intravenous glucose have spontaneously stated that they felt better after termination with peripheral electrical stimulation. It has also been noted that the number of hypoglycemic reactions in the afternoon has been remarkably reduced in those patients receiving peripheral electrical stimulation. Patients may complain of sore muscles for two or three days but once accustomed to the exercise no further complaints are made. There has been no instance of electrical burns with the electrodes described.

Theoretical Considerations

As previously mentioned the physiology of the reticular activating system appears to be a logical starting point in developing a theoretical explanation for the action of peripheral electrical stimulation in hypoglycemic coma, barbiturate poisoning and mental illness in which central autonomic hyperreactivity can be demonstrated. Magoun[13,14,15] and his co-workers have shown that arousal can be produced by various stimuli in animals in different states of anesthesia. This reaction is associated with generalized cortical activity and a simultaneous excitation of the reticular activating system. There is no specificity as to the type of stimulation which produces these responses and they are seen to have a longer latent period than localized cortical potentials evoked by specific sensory stimuli. Also, these recordable responses seen simultaneously with arousal can be depressed or abolished by deep barbiturate anesthesia while at the same time specific sensory stimuli are capable of producing localized responses in the cortex. The presence of this additional central sensory system was also demonstrated by placing lateral and medial lesions in the brain stem. They showed that in spite of lesions of the classical lemniscal pathways, arousal from sleep would occur with auditory stimuli. On the other hand, lesions of the medial brain stem tegmentum caused coma-like status from which it was possible to arouse the animals only temporarily. The importance of the posterior hypothalamus in respect to arousal from nociceptive stimuli has been demonstrated by Koella and Gellhorn.[16] They noted that in animals with unilateral lesions of the posterior hypothalamus, arousal and its associated generalized cortical activity would be confined to the side of the intact hypothalamus.

It appears feasible, therefore, in light of the above neurophysiological findings to suggest that in comatose states and in mental illness showing central autonomic hyperreactivity and demonstrating abnormalities of perception and awareness, normal afferent imput is insufficient to maintain an intensity of action of the reticular activating system which will support consciousness or undistorted perception. It is further suggested that massive, intense afferent imput, which is used in this method of peripheral electrical stimulation in the form of repeated, continuing proprioceptive and nociceptive impulses, produces an arousal reaction which is often capable of maintaining consciousness and improving perception. In connection with the latter, central autonomic hyperactivity often seen in patients who are confused and disoriented might be regarded as a partial release of the posterior hypothalamus and the changes in central autonomic homeostasis toward adequate balance

subsequently seen with clinical improvement in such cases might be associated with enhanced cortical activity and cortical dominance of the lower centers.

Regardless of the speculative nature of the above hypothesis, it appears that many practical applications of this concept of the action of peripheral electrical stimulation can be developed in medicine and psychiatry. We have not been in a position to try what appears to be a most practical use of this method and one which would be of considerable importance from the standpoint of prophylactic psychiatry; namely, the use of peripheral electrical stimulation in the resuscitation of the newborn. Likewise, we have been unable to investigate the various types of electrical current as to peripheral effects. Obviously, this needs to be done, particularly in respect to various frequencies of current.

BIBLIOGRAPHY

1. Blachly, P. H., and Brookhart, J. M.: The Analeptic Action of Electrical Stimulation in Barbiturate Poisoning. *Anesthesiol.* 16:151-167, 1955.
2. Robie, T. R.: Immediate Treatment of Barbiturate Poisoning. *J. Med. Soc. N. J.*, 47:370, 1950.
3. Hirschfeld, G. R.: Nonconvulsive Electrostimulation *J. Nerv. & Ment. Dis.*, 117:323-328, 1953.
4. Alexander, L.: Treatment of Mental Disorder. *Phil. W. B. Saunders Co.*, 1953.
5. Jones, C. H.: The Funkenstein Test in Selecting Methods of Psychiatric Treatment. *Dis. Nerv. Syst.*, 17:37-43, 1956.
6. Hebb, D. O.: The Mammal and His Environment. *Am. J. Psychiat.*, 111:826-831, 1955.
7. Jones, C. H., Shanklin, J. G., Dixon, H. H., Brookhart, J. M., and Blachly, P. H.: Peripheral Electrical Stimulation, A New Form of Psychiatric Treatment. *Dis. Nerv. Syst.*, 16:323, 1955.
8. Dickel, H. A., Dixon, H. H., and Shanklin, J. G.: Office Treatment of the Psychoneuroses with Peripheral Electrical Stimulation. To be published.
9. Shanklin, J. G., Dickel, H. A., Dixon, H. H., and Jones, C. H.: Peripheral Electrical Stimulation in Barbiturate Poisoning. *Northwest Med.*, 55:871-873, 1956.
10. Freeman, Walter: Personal Communication.
11. Shanklin, J. G., and Burkes, D. C.: The Management of a Case of Chlorpromazine Coma and Hypothermia. To be published.
12. Jones, C. H., Blachly, P. H., and Brookhart, J. M.: The Analeptic Action of Peripheral Electrical Stimulation in Hypoglycemic Coma. *Arch. N.P.*, 73:560-564, 1955.
13. Morruzzi, G., and Magoun, H. W.: Brain Stem Reticular Formation and Activation of the E.E.G. *E.E.G. Clin. Neurophysiol.*, 1:455-473, 1949.
14. French, J. D., Verzeano, M., and Magoun, H. W.: An Extralemniscal Sensory System in the Brain. *Arch. N. P.*, 69:505-518, 1953.
15. French, J. D., Verzeano, M., and Magoun, H. W.: A Neural Basis of the Anesthetic State. *Arch. N.P.*, 69:519-29, 1953.
16. Koella, W. P., and Gellhorn, E.: The Influence of Diencephalic Lesions Upon the Action of Nociceptive Impulses and Hypercapnia on the Electrical Activity of the Cat's Brain. *J. Comp. Neurol.*, 100: 123, 1954.

Organization Notices

EASTERN PSYCHIATRIC RESEARCH ASSOCIATION:

The Second Annual Meeting of the Eastern Psychiatric Research Association will be held October 11, 1957 at Kings Park State Hospital, Kings Park, N. Y., and will comprise clinical demonstrations of succinylcholine techniques and electro-sleep procedures and on October 12th at Waldorf-Astoria Hotel where there will be presented a symposium on genetic psychiatry and round table discussions on topics of prime interest.

There will be registration fee only for the Waldorf-Astoria meeting.

For program and further information, address inquiries to Dr. David J. Impastato, 40 Fifth Avenue, New York, N. Y.

INSTITUTE OF PSYCHIATRIC TREATMENT:

The Fifth Annual Institute of Psychiatric Treatment will be held October 17, 18 and 19, 1957 at the Philadelphia State Hospital, Philadelphia, Pa.

Registration fee is $35.00.

A wide variety of subjects covering testing and treatment methods will be presented with open discussions.

For program and further information address inquiries to Dr. Leo Alexander, 433 Marlborough St., Boston, Mass.

ASSOCIATION FOR RESEARCH IN NERVOUS AND MENTAL DISEASE:

The Annual Meeting of the Association for Research in Nervous and Mental Disease will be held on December 13th and 14th, 1957 at the Hotel Roosevelt, New York City. The subject of the meeting will be "Effect of Pharmacologic Agents on the Nervous System."

For program and further information address inquiries to Dr. Rollo J. Masselink, Secretary, 700 West 168th Street, New York City.

Evaluation of Meprobamate (Miltown) in Treatment of Hospitalized Schizophrenic Patients

DEAN M. LAIRD, M.D., JEAN N. ANGELO, M.D., and
JUSTIN M. HOPE, M.D.

Introduction

During the past four years a number of drugs, many of which are chemically unrelated but collectively known as "tranquilizers," have been employed in the treatment of psychiatric disease. In the literature many claims have appeared attesting to the therapeutic efficacy of these drugs. The extent of the effectiveness of these drugs has been variously reported. On the one hand, actual cures for some psychiatric diseases have been maintained; while on the other hand, though a cure has not been claimed the efficacy of the drugs in allaying various symptoms of disease has been vouchsafed. Almost all of these drugs have been heralded as alleviators of "nervousness" and tension and their value in the production of "peace of mind" in patients has virtually gained universal acceptance. Some authors, however, have been less extravagant in their claims. Freeman[1] has written an excellent critique on the role of several of the tranquilizing drugs in neuropsychiatry.

A more cautious approach to the evaluation of the role of the so-called tranquilizing drugs in therapy is imperative. Since the difficulties in assaying the value of a therapeutic agent in the treatment of any disease, and psychiatric disease in particular, are well known, it is of inestimable value to employ a method which is as objective as possible and in which sources of error are controlled.

Method

The method here employed in the evaluation of meprobamate on hospitalized schizophrenic patients is a modification of the method which was described by one of us earlier.[2,3] The method can be described succinctly to best advantage by breaking it down into the following subdivisions: 1. Selection of subjects and controls. 2. Procedures of observation. 3. Timing of observations.

Selection of Subjects and Controls: All subjects used were committed to the Worcester State Hospital. From this group were selected only patients in whom the diagnosis of schizophrenia had been made by the staff. As a further check, the patients to be employed in the study were examined by us and found to have at least three of the cardinal signs (disturbance of affect, disturbance in associations, disturbance in attention, disturbance in cognition and disturbance of insight) of schizophrenia. From this group of established schizophrenic patients both controls and subjects were selected by a nurse who was not otherwise involved in the study. Thus, the physician making the observations was unaware which subject was receiving the compound tested and which subject was receiving placebos.

Procedures of Observation: Trained psychiatric nurses observed the patients' behavior during the entire course of the study and recorded these observations in twenty-four hour nurses' notes. In addition, the patients were observed at regular intervals during the course of the study by nurses who employed a rating scale adapted to the nursing and attendant level. Psychiatrists observed the patients at regular intervals during the course of the study employing the formal mental status examination and rating the patients on the psychiatric rating scale originally devised by Malamud and Sands[4] which employs twenty-two categories commonly used in the psychiatric evaluation of patients (Figure 1). In the system of scoring employed in the use of this rating scale, the higher the total numerical score the greater the deviation from the patient's original norm or base line (Figure 2).

Timing of Observation: Observations on the patients in the study were made for a control period of two weeks during which

From the Worcester Foundation for Experimental Biology, Shrewsbury, Massachusetts, and the Research Service of the Worcester State Hospital, Worcester, Massachusetts.

PSYCHIATRIC RATING SCALE

FUNCTION	6	5	4	3	2	1	BASE LINE		1	2	3	4	5	6
APPEARANCE	Bizarre		Decorative		Over-Meticulous		NEAT	CARELESS	Slovenly	Untidy		Incontinent	Smearing	
MOTOR ACTIVITY	Excited		Agitated		Restless		ACTIVE	QUIET	Under-Active		Retarded		Stuporous	
MIMETIC EXPRESSION	Incongruous		Dramatising		Exaggerated		ANIMATED	RESTRAINED	Stiff		Waxy-Flexibility		Mask-Like	
RESPONSIVITY	Anaclitic		Suggestible		Dependent		FLEXIBLE	RIGID	Stubborn		Resistive		Negativistic	
HOSTILITY REACTIONS	Destructive		Combative		Belligerent		AGGRESSIVE	SELF-EFFACING	Self-Deprecating		Self-Mutilating		Suicidal	
SOCIALIZATION	Disruptive		Meddlesome		Out-Reaching		EXTRAVERTED	INTROVERTED	Out-in		Insulated		Inaccessible	
EATING HABITS	Omniphagic		Voracious		Gluttonous		INTOLERANT	FINICKY	Anorexic		Refusing (Spoon-fed)		Tube-fed	
SEXUAL BEHAVIOR	Assaultive		Soliciting		Over-Active		HETERO-SEX ACTIVE	HETERO-SEX UNDER-ACTIVE	Homosex.Pas. (By Necessity)	Homosex.Act	Homosex.Pas. (By Preference)	Homosex.Act	Homosex.Assault. Open Masturbation	
SLEEP	Severe Insomnia		Mod. Insomnia		Restless Sleep		LIGHT	HEAVY	Somnolent		Hathargic		Comatose	
WORK	Scattered		Disorganized		Over-Active		MAJOR	INDIFFERENT	Sporadic-Ineffective		Resistive		Refuses	
ATTENTION	Uncontrolled		Markedly Distractible		Moderately Distractible		ALERT	DETACHED	Preoccupied		Disparative		Completely Withdrawn	
AWARENESS	Confused	Scattered (Disoriented)		Splitting		Superficial	DIFFUSE	RESTRICTED	Perplexed	Depersonalisation		Cloudy (Disoriented)		Unconscious
SPEECH	Incessantly Productive		Push-of-Speech		Over-Talkative		VOLUBLE	TERSE	Under-Talkative	Retarded		Blocking		Mute
ASSOCIATIONS	Schizlalia		Klang		Abrupt		DIRECT	INDIRECT	Vague-Circumstantial	Tangential		Irrelevancies		Neologisms
MOOD	Exhilarated		Euphoric		Enthusiastic		OPTIMISTIC	PESSIMISTIC	Somber		Despondent		Deeply Depressed	
AFFECT	Inappropriate		Explosive		Labile		DEMONSTRATIVE	RESERVED	Inadequate		Bland		Flat (Rigid)	
FEELING	Panic	Anxious		Tense		Hypersensitive	SENSITIVE	CASUAL	Phlegmatic		Dull		Apathetic	
PERCEPTION	Hallucinations		Illusions Pseudo-Hallucinations		Exaggerated Intensity		EXTEROCEPTIVE	INTEROCEPTIVE	Self-Observation	Hypochondriasis		Conversions		Somatic Hallucinations
THOUGHT PROCESSES	Fragmented		Alogical Paralogical		Illogical		SHALLOW	CRITICAL	Rationalising		Obsessive Hair-Splitting		Obsessive Doubt	
SUBJECTIVE REORGANIZATION	Cosmic Del. (Omnipotence)	Del. of Grand.	Ideas of Per.	Ideas of Influ	Ideas of Ref.	Autistic	EXTRA-PERSON. REFERENCE	INTRA-PERSON. REFERENCE	Ideas of Inferiority	Self-Accusatory		Somatic Delusions		Nihilistic
MEMORY	Confabulation		Fabrication		Obsessive Reminiscences		PRECISE SCRUPULOUS	CARELESS VAGUE	Over-Generalising		Gaps		Deteriorated	
INSIGHT	Negation of Problem	Problem Exagen.	Recog. of Prob. Without Concern		Shifting of Blame		SELF-SATISFIED	SELF-CRITICAL	Self-Hyper-critical	Add. of Non-Exist. Probs.		Despairing Self-Blame		Attitude of Complt. Helplessness

Figure 1.

RATING SCALE

Patient: R.A. Doctor: J.M.H. Date: 1/13/56

CATEGORY	6	5	4	3	2	1	BASE LINE	1	2	3	4	5	6	SCORE
APPEARANCE							X	√						1
MOTOR ACTIVITY							X	√						1
MIMETIC EXPRESSION							X			√				3
RESPONSIVITY							X		√					2
HOSTILITY REACTIONS							X							0
SOCIALIZATION							X	√						1
EATING HABITS					√		X							2
SEXUAL BEHAVIOR							X					√		5
SLEEP							X							0
WORK							X	√						1
ATTENTION							X			√				3
AWARENESS							X				√			4
SPEECH							X				√			4
ASSOCIATIONS							X			√				4
MOOD							√X							0
AFFECT							X						√	6
FEELING							X	√						2
PERCEPTION							X	√						1
THOUGHT PROCESSES			√				X							4
SUBJECTIVE REORGANIZATION					√		X							2
MEMORY							X							0
INSIGHT	√						X							6
												TOTAL		52

Figure 2.

all subjects were receiving placebos, during a period of three months during which a certain number of the patients were continued on placebos while other patients were given active compound and finally during a control period lasting approximately one month when all the subjects were again placed on placebos.

The method of observation employed in this study gives three levels of information. Through the medium of nurses' observations, the longitudinal record of the overt behavior of the patients prior to, during and after the experiment is obtained. Mental status examination provides non-directive, conversational material. The third method of observation, namely, the psychiatric rating scale determinations, furnishes directive information concerning the twenty-two items employed in the rating scale. The scores thus obtained are indicative of the direction in which the patient's behavior is changing rather than the actual amount of the change, since the method itself is serially quantitative rather than additive. As employed in this study the chief function of the rating scale is standardization which is obtained by the directive evaluation of enumerated specific items.

Results

Employing the method above outlined, three distinct studies were undertaken dur-

ing the course of a year. In the first study, eight chronic schizophrenic female patients were evaluated, four of whom received meprobamate in doses of 400 mgm, four times a day, while four received placebos which were identical in appearance to the active compound. In the second study, eight female patients were subjects, four of whom received meprobamate in a dose of 400 mgm, four times a day, while four received matching placebos. In each instance the same number of tablets was given per day to each patient.

To test the notion held by some that merely focusing attention on a group of hospitalized psychiatric patients results in some degree of improvement, a third study was performed involving six male patients. The examiner, although unaware which patients were receiving active compound, was under the impression that three subjects were receiving an active compound. Actually all six of these patients were receiving a placebo which was identical in size, shape and color to the active compound. The results obtained in this study attest the objectivity of the method employed in the entire experiment.

In the first study all four patients receiving meprobamate showed varying degrees of improvement in overall behavior. This was apparent in the twenty-four hour nurses' observation as well as the nurses' rating scale scores. The patients receiving meprobamate were much easier to handle on the ward, were more cooperative and presented fewer problems in management; while the patients on placebos either showed no change in their overall behavior or, as is true in untreated schizophrenia, were worse in that they were more difficult to manage, refused to cooperate with the nursing personnel and generally presented difficulties in ward management.

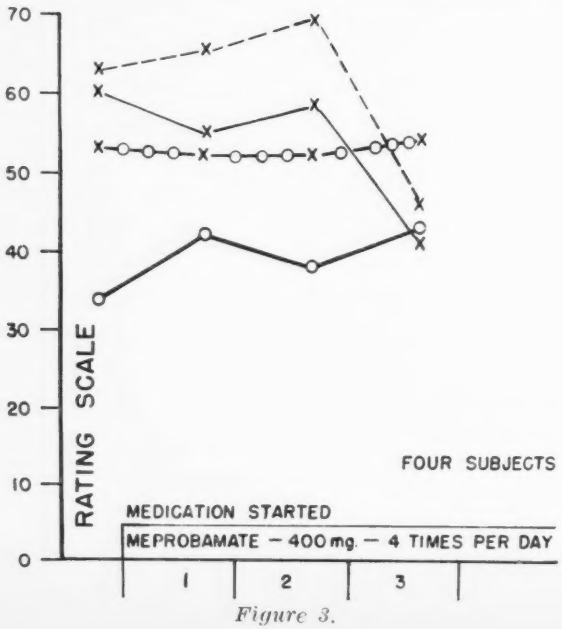

Figure 3.

The change in overall behavior observed by the nurses is generally reflected in the total rating scale scores, although it becomes more apparent when one analyses certain individual categories which will be described later. Figure 3 shows the total rating scale scores for the four patients in the initial study who received meprobamate and Figure 4 the four patients in the same study who received placebos. It will be noted that all patients on placebos showed an increase or no significant change in the total rating scale score, while in the patients receiving meprobamate, two showed a drop in the rating scale score of 17 and 19 points respectively, one showed a rise of one point in the rating scale score and another a rise of nine points.

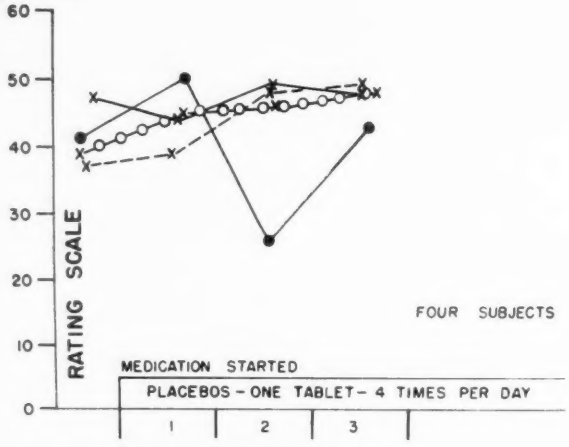

Figure 4.

In the second group of female schizophrenic patients studied, the improvement of those receiving meprobamate over those receiving placebos was even more striking. The nurses' records showed that the four patients receiving meprobamate were markedly improved over those receiving placebos in general ward management and total overall behavior. The favorable response to meprobamate is also evident in the total rat-

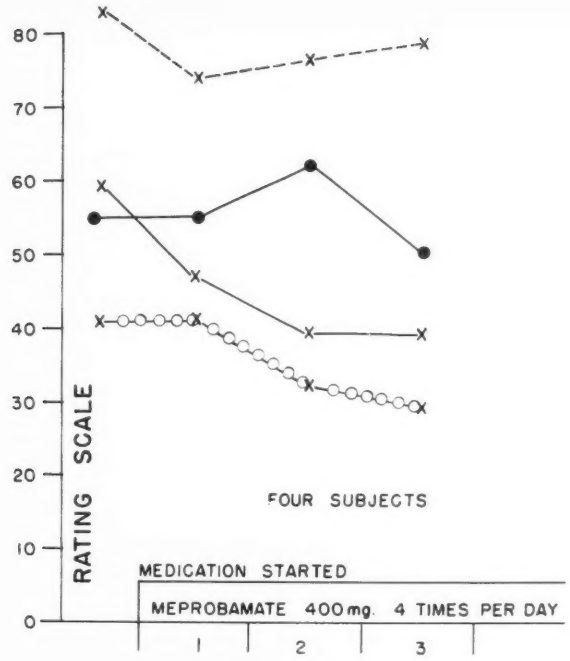

Figure 5.

ing scale scores (Figure 5). It will be observed that three of four patients receiving meprobamate showed a drop in the total rating scale score indicating varying degrees of improvement, perhaps one of four patients on placebos (Figure 6) showed a drop in total rating scale score.

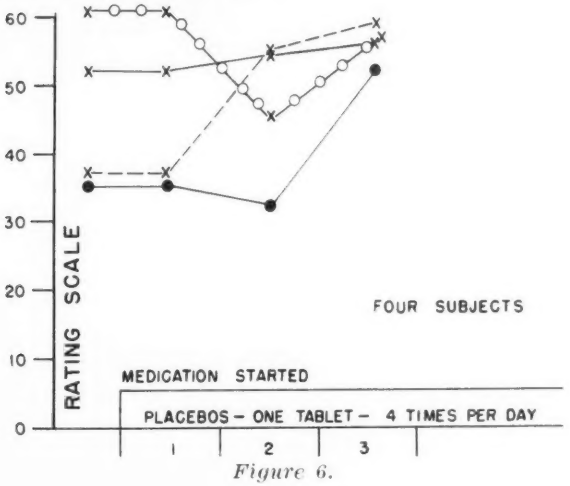

Figure 6.

In the third study unknown to the examining physician, all patients receiving placebos. Only one of these patients showed any improvement in overall behavior. This patient had previously shown similar periods of improvement with or without therapy. The psychiatric status of these patients remained relatively unaffected throughout the course of the study and reflected the natural course of the schizophrenic process in the individual patient. It will be seen in Figure 7 that the total rating scale scores in these patients either remained the same or increased. Only one of the patients (as noted above) showed a decrease in the rating scale score indicating an improvement in overall condition.

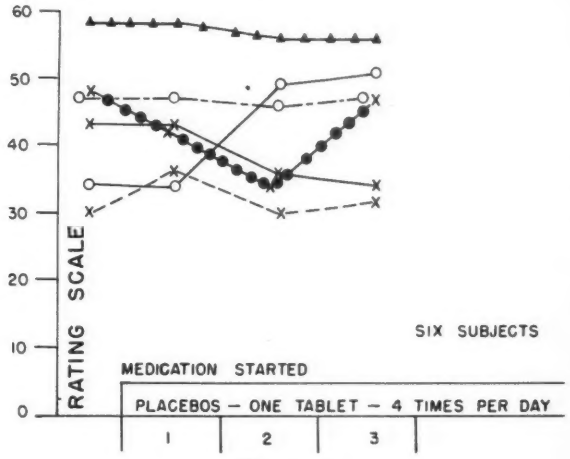

Figure 7.

Since it is immediately apparent that a drug though not effective in producing an overall change in a disease process, namely, curing that disease, may, nevertheless, favorably alter some manifestations of the disease, it was decided to analyse the twenty-two categories in the rating scale in an effort to determine whether meprobamate was effective in producing a significant change in any aspect of the disease process. Toward this end, five categories were selected. These categories were motor activity, hostility reaction, mimetic expression, mood and feeling. In the first two studies in which eight patients received meprobamate and eight placebos it is evident that all those receiving meprobamate showed changes in these categories approaching the individual norm on base line of the patient. Figure 8 depicts this correlation. The higher the numerical score the greater are the deviations from the norm or base line in the category evaluated. It will be seen in the patients receiving meprobamate that over the course of the study the numerical value of the score for each individual function decreased, while in the placebo group the numerical score in each individual function increased. In the

other seventeen rating scale categories, however, no significant differences could be discerned between the meprobamate and placebo treated subjects.

Since some of the "tranquilizing drugs" produce deleterious side effects i.e., postural hypotension, liver damage and leukopneia, it was decided to ascertain the effect of meprobamate on blood pressure, liver and hemopoietic system. Toward this end systematic blood pressure determinations, liver function tests and complete blood counts were done throughout the course of the second study. It will be seen in Tables 1 and 2 that no significant change in blood pressure, liver function tests or complete blood counts occurred during the course of this study. These results would seem to indicate that concern over side effects of this nature are negligible with meprobamate. None of the patients on meprobamate showed any abnormalities in these findings. It must be pointed out, however, that the number of patients so studied was small. It is entirely conceivable that had a larger number been employed some deleterious side effects on blood pressure, blood forming organs and liver may have occurred.

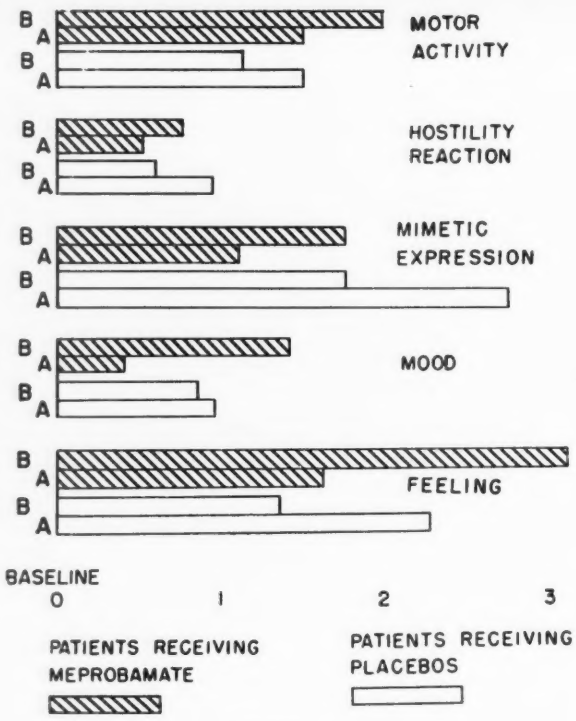

Figure 8.

TABLE 1—BLOOD PRESSURE

Patient	Initial	Final	Average
MEPROBAMATE			
A.C.	124/76	116/72	115/74
J.D.	120/76	118/76	112/70
M.T.	122/70	130/76	120/72
A.W.	110/80	130/80	112/69
PLACEBOS			
A.L.	110/64	110/70	109/73
A.A.	130/80	110/50	126/62

TABLE 2—LABORATORY DATA

Patient	HGB.	W.B.C.	R.B.C.	POLYS	LYMPHS	EOS	NPN	I.I.
MEPROBAMATE								
M. T.		8,850	4,320,000	79	21			
M. T.		5,250	3,730,000	57	42	1		
M. T.		17,100	4,070,000	78	21	1		
M. T.	14.0	9,100	4,300,000	68	29	3	35	3.9
A. W.		8,600	3,200,000	72	28			
A. W.		6,800	3,100,000	69	31		24	4.4
A. W.	13.7	8,000	3,825,000	77	22	1	26	6.7
J. D.		13,600	4,500,000	39	59	2	25	4.4
J. D.	14.0	8,850	4,400,000	71	28	1	30	4.3
PLACEBOS								
A. A.		7,900	4,490,000	56	43	1		
A. A.		9,000	4,670,000	70	29	1		
A. A.		9,800	4,100,000	66	33	1		
A. A.	11.0	9,200	4,200,000	51	47	2	27	3.1
A. A.	13.5	8,750	4,250,000	60	38	2	35	4.6
A. L.		8,000	4,200,000	60	35	5		
A. L.	13.0	8,800	3,860,000	77	22	1	27	4.1
A. L.	12.5	5,400	3,950,000	71	25	4	32	3.9
S. H.		9,200	4,300,000	57	43		24	3.7
S. S.	13.8	7,800	3,950,000	66	34		34	3.9

Discussion

The disease process with which this study concerns itself, is chronic schizophrenia. Although meprobamate did not cure the schizophrenic process, it did have a beneficial effect on the patients' overall behavior. In general, patients on meprobamate improved in their overall behavior as observed by the nursing service and this change in behavior reflected itself in total rating scale scores.

Since the method employed enabled us to study individual signs of the disease process, certain individual functions were abstracted from the total rating scale categories. In five of these functions a change toward the normal base line was apparent.

1. Motor activity changed from overactive, restless, excited behavior to quiet or normally active behavior.

2. Mimetic expression changed from incongruous or grimacing facial expression to an animated or restrained expression.

3. Hostility reaction which in general was of the destructive, combative type changed a less aggressive type of behavior.

4. The patients who did show a disturbance in mood showed a pessimistic or somber reaction which changed toward an optimistic or mildly pessimistic mood.

5. In those patients in whom tension, anxiety and panic were apparent, these symptoms were allayed. The failure to observe a significant initial drop in the rating scale scores, indicating improvement, in the placebo treated patients in these data appears to differ from such a drop observed by Freeman and his associates[5] in another study. However, in this study all twenty-two categories of the original Malamud-Sands Psychiatric Rating Scale were employed; in the Freeman study only sixteen of these categories were used. It is immediately apparent therefore that these two groups of data are not comparable. Another difference between the two studies concerns itself with the selection of patients. In the Freeman study some of the subjects used were postlobotomy patients while others had never been employed before in therapeutic studies. In our study all were chronic non-lobotomized patients who had been on previous drug studies. The novelty of the experimental situation, at times associated with apparent initial improvement was not present.

Conclusion

Although meprobamate is not a cure for schizophrenia it certainly does produce favorable changes in the overall behavior of the patient. In the overall picture of behavior, as noted by twenty-four hour nurses' observations, the use of this medication does promote a more easily managed ward. A ward of patients who initially showed anxiety and overactivity now behaved in a quiet, restrained fashion.

Though meprobamate does not favorably influence the course of the entire schizophrenic process it does produce changes in a number of individual signs and symptoms, namely, motor activity, mimetic expression, mood, hostility and feeling.

These studies indicate that meprobamate is effective in rendering institutionalized psychotic patients more easily manageable.

Since anxiety is not a symptom which is unique to schizophrenia, but occurs in many disease processes (anxiety neurosis, hysteria, psychasthenia and depression), the observation that meprobamate does allay anxiety even in chronic schizophrenic patients suggests that it may be effective in pure anxiety states or in the anxiety reaction occurring in other disease entities.

Authors' Note: Meprobamate used in this study was furnished as Miltown by the Wallace Laboratories, New Brunswick, New Jersey.

REFERENCES

1. Freeman, H.: A Critique of the Tranquilizing Drugs, Chlorpromazine and Reserpine, in Neuropsychiatry. *New Eng. J. of Med.,* 255: 877-883, November 8, 1956.
2. Malamud, W., Hope, J. M., and Elmadjian, F.: Objective Evaluation of Therapeutic Procedures in Mental Disease. *Boston Med. Quart.,* Vol. II, pp. 7, March, 1951.
3. Hope, J. M., Elmadjian, F., and Malamud, W.: A Method for the Evaluation of Hormone Therapy in Schizophrenia. *J. Clinical and Experimental Psychopathology,* Vol. XII, No. 4, pp. 267-283, October, 1951.
4. Malamud, W., and Sands, S. L.: A Revisino of the Psychiatric Rating Scale. *Am. J. Psychiat.,* 104: 231-237, October, 1947.
5. Freeman, H., Arnold, A. L., and Cline, H. S.: Effects of Chlorpromazine and Reserpin ien Chronic Schizophrenic Patients. *Dis. of Nerv. Syst.,* Vol. 17, No. 7, July 1956.

A Contribution to the Psychology of the Snob

EDMUND BERGLER, M.D.

Sneering at the snob is a popular pastime providing much pleasure in exchange for a minimum of thought and effort; explaining his psychology is a more laborious procedure.

Webster calls "snob" a word of uncertain origin describing "one who blatantly imitates, fawningly admires, or vulgarly seeks association with those whom he regards as his superiors," and also suppies a corollary definition: "One who repels the advances of those whom he regards as his inferiors; one conscious of his superiority; one inclined to exclusiveness, as, an intellectual snob."

Sharper condemnation appears in continental definitions. Meyer's *Lexicon,* for example, declares a snob "an uneducated, pretentious, supercilious person; a fashion-ape. Snobbism: empty pretention ('eitle Vornehmtuerei')."

It seems that the snob has a bad press; people react to him with contempt and enmity. What about his genesis?

Different observers have repeatedly stressed the fact that snobs construct and adhere to false and artificial yardsticks. Arthur Koestler cites the case of a promiscuous girl, connected with a publishing firm, who slept with every author who had written a book that sold more than 20,000 copies. She defended her conduct by explaining that she was "sleeping with history." Who, she asked, "would blame Marie Walewska for surrendering to Napoleon? Everything one does with a famous man is redeemed from its sinfulness by becoming a Historical Anecdote." Koestler also writes of another girl, to whom a shy admirer had presented an original drawing by Picasso. Assuming that the picture was a reproduction, the girl hung it over the stairs; later on, she discovered its value and promptly promoted it to the place of honor over her drawing-room mantelpiece. She defended her actions with an aesthetic "double-think," oblivious of her own snobbism—"the frame of reference has changed." Koestler traces the change in her attitude to "sympathetic magic" and "primitive fetishism"—"The contact with the Master's hand has imbued it with a magic quality" ("An Anatomy of Snobbery," in *The Trail of the Dinosaur*).

Koestler suggests the term "the Crillon complex" to describe this attitude; he takes his cue from Henry the Fourth's ironic injunction to Crillon: "Hang yourself, brave Crillon; we fought at Arques and you were not there." These "peeping Toms of history" are obsessed by the desire "to be present," and to meet important peope who, in one way or another, influence the destiny of their times:

> "Boswell was perhaps the most outstanding historic snob, the prototype of all celebrity hunters and autograph collectors, of people who will camp all night in the street to catch a passing glimpse of some famous personality or event" (p. 83).

Koestler concludes:

> "Every variety of the innumerable forms of snobbery can be traced back to the same basic pattern, the overlapping of two different systems of value. The first, S. 1, is the system on which we pretend or believe our judgments to be based: aesthetic criteria, personal attraction, intrinsic human qualities, and so on. The second, S. 2, is the interfering system which distorts our judgment: fetish worship, "Crillon complex," title, power, and so on. Snobbery is the result of the psychological fusion of two independent value-systems which are separate by origin and nature, but inextricably mixed up in the subject's mind (p. 86). "In his amusing essay on 'Snobs,' Russel Lynes says: 'The snob is almost by definition insecure in his social (in the larger sense) relationships, and resorts to snobbishness as a means of massaging his ego. Since scarcely anyone is so secure that his ego does not sometimes need a certain amount of external manipulation, there is scarcely anyone who isn't a snob of some sort.' True as far as it goes, but there are as many ways of massaging one's ego as there are human activities. From Demosthenes, who compensated his inborn stammering by forcing himself to talk with his mouth full of pebbles until he became the foremost orator of Greece, to Napoleon, who made up for his short stature and lowly birth by conquering Europe, a feeling of inadequacy has always been a powerful motor of ambition. The real question is why the same compensatory drive is satisfied in one case by creative achievement, in another by grotesque and sterile attitudes. . . . Guided by an inappropriate standard of values, the snob's pursuits are sterile, and his satisfactions of a vicarious nature. He does not aim at power; he merely

wants to rub shoulders with those who yield power, and bask in their reflected glory. . . . He would rather be the lowest-ranking and just tolerated hanger-on of the envied set or club than a fullfledged member of the one to which by nature he belongs. He would rather stay in a stuffy cubby-hole in a luxury hotel than have a bath and a view in the next-cheaper category; he does not seek the bodily comfort which makes luxury desirable, but the vicarious comfort of 'staying in the Ritz.' His social pleasures are equally perverted. He does not seek love, friendship, conviviality, but the cold, vicarious glow of being permitted to share the company of the select. . . . The snob's satisfactions do not derive from the object of his preoccupation, but from some secondary consideration associated with it; they are pseudo-satisfactions. His drives are imitative, his labours barren, his pleasures vicarious, his triumphs self-delusions. The perfect symbol of it all is the show-off TV aerials on the roofs of suburban houses—minus the television sets" (pp. 88-9).

"Sets of values," according to Koestler, determine the snob's actions. But where do these "values" come from? Only once does Koestler make an allusion to genesis: "The tendencies which interfere with our appreciation of human qualities and turn us into social snobs are of more obvious nature: the psychological roots of the worship of title, power, wealth, are easily traced" (p. 84). Obviusly Koestler here alludes to the Oedipal situation.

Many of Koestler's observations are valid and excellent; his explanations, however, are wanting.

The whole idea of "massaging the ego" is superficial; it covers defensively complex inner vicissitudes. Nor is it true that the simple compensatory mechanism adduced in the case of Napoleon corresponds with psychological facts.

A snob is an inner defeatist who settles for the proximity of the "great," having unconsciously despaired of becoming "great" himself. He is akin to the impostor though without the impostor's activity; he is a child without patience. He accepts voyeurism of other people's greatness as a substitute for success.

Snobbery consists of a peculiar make-believe via identification, plus an even more strongly marked element of submissiveness. Rubbing elbows with "the great"—even when the "great" do not even know whose elbows they inadvertently graze in the crowd —substitutes for action. Fantasy is paramount in the snob; his daydream lasts twenty-four hours.

What prevents productive action? The identical masochistic submissiveness (only partially and defensively counteracted in pseudo-aggressive contempt for the "less fortunate") which pushes the child in the adult snob into his ludicrous (if not pathetic) idolatry.

Moreover, the imitation of the "great" by no means reflects a simple Oedipal stirring. On the contrary, the entire attitude expresses a desperate attempt to avoid the masochistic feeling of being excluded. The snob wards off the feeling of exclusion by accepting his own invitation to join the exclusive group of the "great"—by rubbing elbows with them.

It is not even precise to state that the snob identifies with the "great." The apparent identification is a fake, limited to externals. A true internal identification extends into the spheres of work and action; mere mimicry-identification ends in daydreams and inactivity. Long ago I learned this rule of thumb in analysis: Children who continue to brag about their future achievements after reaching the age of eight or nine (bragging is typical and unavoidable in children between three and five) without doing preparatory and extra-curricular work such as independent reading and studying and development of mechanical skills, become daydreamers and snobs. Instead of imitating or surpassing their models, they are crushed by their models. They then take the typical way out—masochistic complaints, or snobbery.

It is interesting to note that the snob is never aware of the obvious facts that his mimicry-identifications are unproductive, and his goals empty. To give Koestler the floor again:

"Is the poison really so delightful? I mentioned in a previous book that I have always wanted to write a sequel to La Fontaine's fable of *The Fox and the Grapes*. The poor fox, mocked by his friends, conscious of his defeat, develops an inferiority complex for which, he knows, there is only on cure. Night after night, while the other members of the pack are having a good time stealing nice, fat hens, he is secretly engaged in taking climbing lessons. After several weeks of dogged effort, he finally does

succeed in getting at the grapes—only to find that a terrible disappointment has been waiting for him. The coveted grapes really are sour, as he has pretended from the beginning. But who will believe him? He himself can hardly believe that the beautiful succulent grapes are hard and acid as gall. The grapes become an obsession with him. He has to go on climbing after them, panting and sweating, and to go on eating the beastly fruit for the sole purpose of proving to himself that he is man enough, or fox enough, to reach them. He gets more and more skinny on this diet, and after a nervous breakdown, dies of gastric ulcers" (pp. 92-93).

A nice story, but inapplicable—because it bypasses unconscious mechanisms. The snob holds on for dear life to his "compass which always points in the wrong direction," because the inner defense mechanism of snobbery protects him from a greater danger: being helplessly exposed by his inner conscience as being an empty bag.

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Book Reviews

MODERN THERAPY IN NEUROLOGY: Edited by Francis M. Forster, M.D., Dean and Professor of Neurology, Georgetown University School of Medicine, Washington, D.C., Cloth. Pp. 792. $12.00. The C. V. Mosby Co., St. Louis, Mo. 1957.

In its specific concern with the subject of treatment of neurologic diseases, the book demonstrates a new departure in that it presents the most recent advances in therapy available for the numerous neurologic disease entities discussed therein.

While many diseases of neurologic etiology still present limitations in respect of beneficial therapy, a good deal has been accomplished in the field of treatment of diseases of the nervous system. These diseases have been clinically correlated and authoritatively detailed within some 18 chapters of textual material.

The novelty of the book is that although not intended as a manual for neurologic diagnosis, many of the chapters of the disease entities presented, are preceded by descriptive material, which may be used with equal value for neurologic diagnosis as well as therapeutic management.

Lewis J. Siegal, M.D., LL.B.

PSYCHOSOMATIC MEDICINE: By Edward Weiss, M.D., Professor of Clinical Medicine, Temple University Medical Center, Phila., Pa., and O. Spurgeon English, M.D., Professor and Head of Department of Psychiatry, Temple University Medical Center, Phila., Pa. Cloth, $10.50. Pp. 557. Third Edition. W. B. Saunders Company, Phila., Pa. 1957.

While the authors modestly imply that necessity for a book dealing with the subject of psychosomatic medicine is open to question, they nevertheless suggest that such a treatise may fill a need until the psychosomatic viewpoint shall be incorporated within and become an integral part of text books on medicine. With this, the present reviewer is in full accord, particularly when one considers the extent of acceptance of the psychosomatic concept and its fundamental application to this new synthesis in medicine.

The book is divided into two divisions or groups. The first undertakes a description of the general aspects of psychosomatic problems which includes management and nature of conflict situations, and psychosomatic techniques and their utilization as a medical discipline in functional illness. The second part of the book reviews, in comprehensive form from the standpoint of psychosomatic medicine the various disorders implicating such body systems as: cardiovascular; gastrointestional; endocrine, genitourinary (inclusive of sexual function); respiratory; central nervous system; eye, ear and skin and the allergies; as well as the incidence and aspects of psychiatric disorders involving surgical illness; together with emotional factors complicating arthritic and orthopedic illness.

The authors have succeeded in showing by their general propositions used as principles of explanation of the psychosomatic concept, that there exists an undoubted correlation between the emotional and the physical factors of disease regardless of the differing physiological responses in particular individuals to the varying constellations of emotional reactions. The book is unencumbered by unnecessary theorization and reflects a sagacious economy of language. It may be read with profit by both the general medical practitioner and the more serious student of the subject of psychosomatics.

Lewis J. Siegal, M.D., LL.B.

THE MOON IS FULL by Aileen Adair. Philosophical Library, New York, pp. 200. $4.75.

This is the sage of a young lady physician who studied psychiatry and it is a record of her peregrinations from hospital to hospital in Great Britain. The book was printed in England for the Philosophical Library and, sad to say, the format and the printing are unattractive.

It is difficult to determine the reason for this book and more difficult to determine for whom it is intended. The doctor seems to be a very nice person, who has no hesitation in standing up for her ideas and in telling the medical superintendents just where to get off. Some of her ideas certainly will not receive wide acceptance, viz.: "Schizophre-

nia strikes like a thief in the night." (Page 29); "As he waltzed me on the floor he talked nineteen to the dozen. I classified him immediately as a maniac" (sic); etc.

Some of the places she worked in were noteworthy and some of the staff members were even more so. Speaking of the medical superintendent of one place: "A tall, gaunt, cadaverous looking man rose from behind a desk. He was surrounded by cats—the place stank to heaven of cats" (page 118). "The Deputy was a small, pale, mousy little middle-aged man who was the complete yes man." "The S.H.M.O. was a bleary-eyed alcoholic. The Senior Registrar a tubercular case who seldom came on duty—and two Junior Hospital Medical Officers and the Senior House Officer were Poles who spoke little English and spent most of their time seducing the nurses" (page 119). Sounds like shades of the past.

There is a great deal more of this, plus discourses upon padded cells into which, incidentally, the author put two recalcitrant feeble minded girls. There are philosophic discourses upon homosexuality, masochism, sadism, foreign nurses, psychiatry and the courts, plus a tragedy in the death of a young girl medical officer by suicide.

Well, you get the general idea of the book; it is interestingly written but the why of the writing eludes this reviewer.

Francis J. Braceland, M.D.

SPINAL CORD COMPRESSION. I. M. Tarlov, M.D. Charles C. Thomas, Publ. $7.50. 147 pp.

This book represents much observation, study and research in the controversial field of spinal cord compression. The book is divided into three sections. The first of these carefully outlines the experimental technique for producing spinal cord compression in animals and reports the author's results of these studies. He presents evidence to indicate that the sensorimotor paralysis due to compression results from mechanical deformation of the nerve fibers rather than ischemia. He points out that in some cases of extensive compression the effects of anoxia may be superimposed on the mechanical effects.

The second and third sections deal with the author's clinical studies. He provides a summary analysis of a series of cases of complete and incomplete spinal paralysis caused by trauma or neoplasm in an attempt to supply prognostic precision and evidence to determine whether or not to operate and, if so, when. On the basis of his work he recommends a decompressive laminectomy as early as possible in cases of complete paralysis due to spinal injuries. In cases of acute incomplete paralysis due to closed spinal injury it is justified to watch and wait. If during this period paralysis progresses or is severe and stationary, laminectomy should be done, provided there is a subarachnoid block. In complete spinal paralysis caused by neoplasm the rate and degree of recovery varies inversely with the duration of symptoms and directly with the duration of paralysis. In compression of the spinal cord in man and animals he found the motor power and position sense lost before pain sensation.

In the third section of the book the author discusses the early management of acute complete compressive spinal paralysis.

This book represents a careful study, both clinical and experimental, and is a very worthwhile contribution.

Chester F. Cullen, M.D.

THE EARLY DIAGNOSIS AND TREATMENT OF ACOUSTIC NERVE TUMORS by J. Lawrence Pool, M.D., and Arthur A. Pava, M.D. Charles C. Thomas, Publ. March, 1957. Pp. 161. $5.50.

Here is a brief but comprehensive monograph on diagnosis and treatment of acoustic nerve tumors. The authors begin with a brief review of the historical data, terminology, histogenesis and pathology. The symptoms and signs of these tumors, based on a careful analysis of 120 cases, are chronologically reviewed and compared with the reports of previous investigators. The diagnosis, differential diagnosis, and the value of various diagnostic procedures are discussed. Typical and atypical case reports are presented.

There was a total of 162 operations on 135 patients and these form the basis for the authors' analysis of the surgical aspects of the acoustic nerve tumors. Following a historical review of the surgical approach, they present a discussion of the operative technique and the post-operative management, the morbidity and mortality of surgery. The indications for total versus subtotal removal of an acoustic nerve tumor are discussed and the results of these two types of procedure evaluated. The authors discuss the methods of correcting the facial asymmetry frequently resulting from trauma to the facial nerve and describe the technique for facial nerve anastomosis with the spinal accessory or hypoglossal nerve.

The text is replete with good clear tables and illustrations and the bibliography is thorough. There is nothing very new in this book but it is a careful study and a worthwhile contribution, incorporating the vast clinical experience of the authors, as well as the reports of previous workers on this subject.

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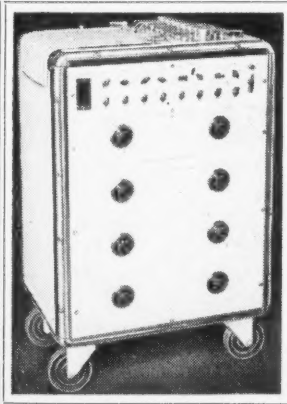

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Only a short while ago withdrawn and angry at the world, now social and alert once more. Her schoolwork had dropped off alarmingly, she became morose, unkempt and shunned her fellow students. Because of these symptoms of mental disease or difficulties, Pacatal was instituted: 25 mg. t.i.d. Pacatal therapy saved this girl from a more serious breakdown.

"You wouldn't have recognized Nancy"

For patients on the brink of psychoses, Pacatal provides more than tranquilization. Pacatal has a "normalizing" action; i.e., patients think and respond emotionally in a more normal manner. To the self-absorbed patient, Pacatal restores the warmth of human fellowship . . . brings order and clarity to muddled thoughts . . . helps querulous older people return to the circle of family and friends.

Pacatal in contrast to earlier phenothiazine compounds and other tranquilizers, does not "flatten" the patient. Rather, he remains alert and more responsive to your counselling. But, like all phenothiazines, Pacatal should not be used for the minor worries of everyday life.

Pacatal has shown fewer side effects than the earlier drugs; its major benefits far outweigh occasional transitory reactions. Complete dosage instructions (available on request) should be consulted.

Supplied: 25 and 50 mg. tablets in bottles of 100 and 500. Also available in 2 cc. ampuls (25 mg./cc.) for parenteral use.

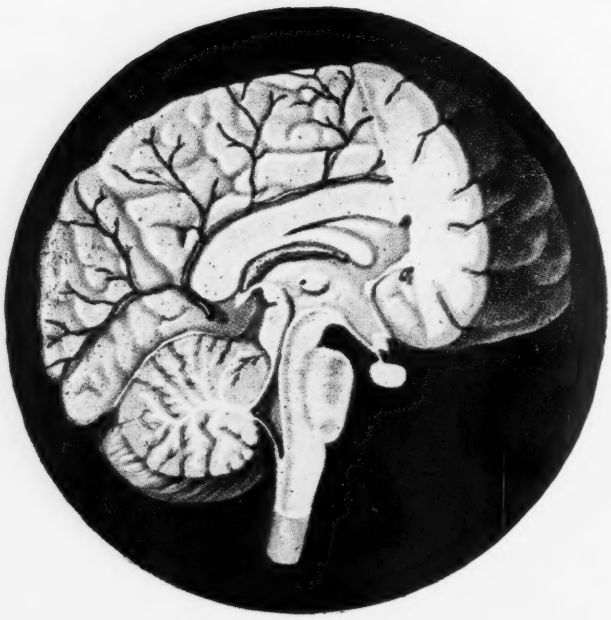
back from the brink with

Pacatal®

Brand of mepazine

WARNER-CHILCOTT

100 YEARS OF SERVICE TO THE MEDICAL PROFESSION



For anxiety, tension and muscle spasm in everyday practice.

- well suited for prolonged therapy
- well tolerated, relatively nontoxic
- no blood dyscrasias, liver toxicity, Parkinson-like syndrome or nasal stuffiness
- chemically unrelated to phenothiazine compounds and rauwolfia derivatives
- orally effective within 30 minutes for a period of 6 hours

RELAXES BOTH MIND AND MUSCLE
WITHOUT IMPAIRING MENTAL OR PHYSICAL EFFICIENCY

Miltown®

tranquilizer with muscle-relaxant action

2-methyl-2-n-propyl-1,3-propanediol dicarbamate—U. S. Patent 2,724,720

Supplied: 400 mg. scored tablets
200 mg. sugar-coated tablets

Usual dosage: One or two 400 mg. tablets t.i.d.

Literature and samples available on request

WALLACE LABORATORIES, *New Brunswick, N. J.*

MILTOWN® THE ORIGINAL MEPROBAMATE

DISCOVERED AND INTRODUCED BY WALLACE LABORATORIES

CM-5108